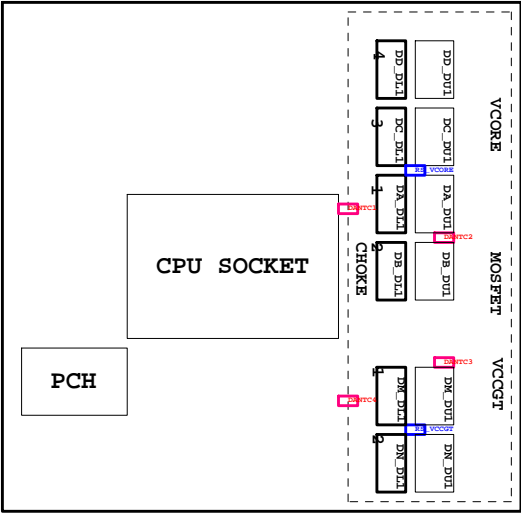


01	COVER SHEET
02	BOM & PCB MODIFY HISTORY
03	BLOCK DIAGRAM
04	CPU_LGA1151-A
05	CPU_LGA1151-B-DDR4
06	CPU_LGA1151-C
07	CPU_LGA1151-D
08	DDR 4 CHANNEL A
09	DDR 4 CHANNEL B
10	PCH CLOCK BUFFER
11	PCH DMI,USB,PCIE
12	PCH MISC
13	PCH SATA,PCIE,SATA_EXPRESS
14	PCH_PWR,GND
15	BIOS
16	I/O ITE8628
17	HWM
18	FAN CTRL-SIO
19	PCIEX16 SLOT
20	PCIEX4 SLOT
21	PCIEX1*4 SLOT
22	M.2 x4
23	VCORE_ ISL95856(PWM)
24	VCORE_ ISL95856(Vcore)
25	VCORE_ ISL95856(VccGT)
26	VCCSA_VCCIO_VCCPLL
27	RT8120_DDR
28	RT8120_VTT
29	RT8120_PCH
30	DISCRETE POWER
31	NCP3933 OVER VOLTAGE
32	ATX POWER , -PROCHOT
33	KB_MS
34	NXP-PTN3356 - DP to VGA - IC

35	NXP-PTN3356 - DP to VGA - Conn
36	R_USB30
37	Realtek 8111HS
38	USB30_LAN CONNECTOR-8111HS
39	ALC887-VD2 CODEC
40	REAR AUDIO JACK
41	F_USB30
42	F_USB20
43	F_PANEL
44	EMI-ESD
45	TABLE LIST
46	
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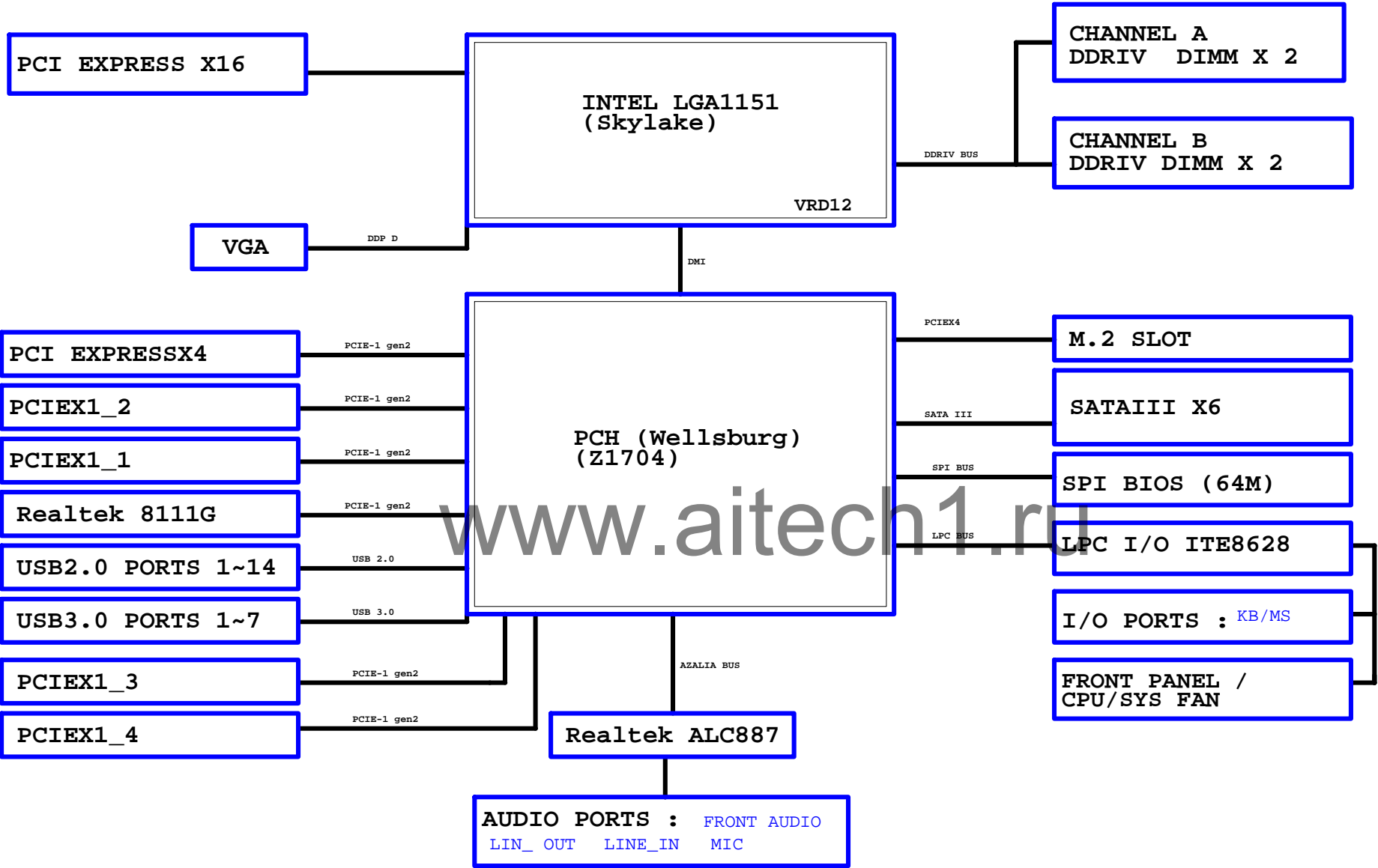


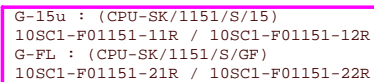
8	7	6	5	4	3	2	1
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D

C

BLOCK DIAGRAM





N-CPURST

WBC123
1n4/X7R/50V/K

N-CPURST {13}

Bifurcation Config.	Signals Lanes		
	CFG[6]	CFG[5]	CFG[2]
1x16	1	1	1
1x16 Reversed	1	1	0
2x8	1	0	1
2x8 Reversed	1	0	0
1x8+2x4	0	0	1
1x8+2x4 Reversed	0	0	0

* 改DDR4 net

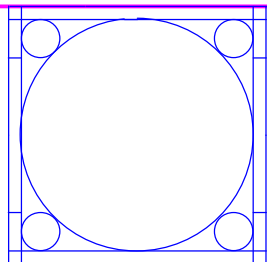
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MDA1 AE37	DDR0_DQ[1]	DDR0_CKP[0]
MDA2 AG38	DDR0_DQ[2]	DDR0_CKP[1]
MDA3 AG37	DDR0_DQ[3]	DDR0_CKP[1]
MDA4 AE38	DDR0_DQ[4]	DDR0_CKP[2]
MDA5 AE40	DDR0_DQ[5]	DDR0_CKP[2]
MDA6 AG38	DDR0_DQ[6]	DDR0_CKP[3]
MDA7 AG40	DDR0_DQ[7]	DDR0_CKP[3]
MDA8 AJ38	DDR0_DQ[8]	DDR0_CKE[0]
MDA9 AJ37	DDR0_DQ[9]	DDR0_CKE[1]
MDA10 AL38	DDR0_DQ[10]	DDR0_CKE[2]
MDA11 AL37	DDR0_DQ[11]	DDR0_CKE[3]
MDA12 AL40	DDR0_DQ[12]	DDR0_CS[0]
MDA13 AL39	DDR0_DQ[13]	DDR0_CS[1]
MDA14 AL39	DDR0_DQ[14]	DDR0_CS[2]
MDA15 AL40	DDR0_DQ[15]	DDR0_CS[3]
MDA16 AX38	DDR0_DQ[16]	DDR0_ODT[0]
MDA17 AN40	DDR0_DQ[17]	DDR0_ODT[1]
MDA18 AR38	DDR0_DQ[18]	DDR0_ODT[2]
MDA19 AR37	DDR0_DQ[19]	DDR0_ODT[3]
MDA20 AN39	DDR0_DQ[20]	DDR0_ODT[0]
MDA21 AN37	DDR0_DQ[21]	DDR0_ODT[1]
MDA22 AR39	DDR0_DQ[22]	DDR0_ODT[2]
MDA23 AR40	DDR0_DQ[23]	DDR0_ODT[3]
MDA24 AW37	DDR0_DQ[24]	DDR0_ODT[0]
MDA25 AL38	DDR0_DQ[25]	DDR0_ODT[1]
MDA26 AV38	DDR0_DQ[26]	DDR0_ODT[2]
MDA27 AW36	DDR0_DQ[27]	DDR0_ODT[3]
MDA28 AL37	DDR0_DQ[28]	DDR0_ODT[0]
MDA29 AV37	DDR0_DQ[29]	DDR0_ODT[1]
MDA30 AT36	DDR0_DQ[30]	DDR0_ODT[2]
MDA31 AU38	DDR0_DQ[31]	DDR0_ODT[3]
MDA32 AY38	DDR0_DQ[32]	DDR0_ODT[0]
MDA33 AW38	DDR0_DQ[33]	DDR0_ODT[1]
MDA34 AV6	DDR0_DQ[34]	DDR0_ODT[2]
MDA35 AU6	DDR0_DQ[35]	DDR0_ODT[3]
MDA36 AU8	DDR0_DQ[36]	DDR0_ODT[0]
MDA37 AV8	DDR0_DQ[37]	DDR0_ODT[1]
MDA38 AW6	DDR0_DQ[38]	DDR0_ODT[2]
MDA39 AV6	DDR0_DQ[39]	DDR0_ODT[3]
MDA40 AY4	DDR0_DQ[40]	DDR0_ODT[0]
MDA41 AV4	DDR0_DQ[41]	DDR0_ODT[1]
MDA42 AT4	DDR0_DQ[42]	DDR0_ODT[2]
MDA43 AT2	DDR0_DQ[43]	DDR0_ODT[3]
MDA44 AV3	DDR0_DQ[44]	DDR0_ODT[0]
MDA45 AW4	DDR0_DQ[45]	DDR0_ODT[1]
MDA46 AT4	DDR0_DQ[46]	DDR0_ODT[2]
MDA47 AT3	DDR0_DQ[47]	DDR0_ODT[3]
MDA48 AP2	DDR0_DQ[48]	DDR0_ODT[0]
MDA49 AM4	DDR0_DQ[49]	DDR0_ODT[1]
MDA50 AP3	DDR0_DQ[50]	DDR0_ODT[2]
MDA51 AM3	DDR0_DQ[51]	DDR0_ODT[3]
MDA52 AP4	DDR0_DQ[52]	DDR0_ODT[0]
MDA53 AM2	DDR0_DQ[53]	DDR0_ODT[1]
MDA54 AP1	DDR0_DQ[54]	DDR0_ODT[2]
MDA55 AM1	DDR0_DQ[55]	DDR0_ODT[3]
MDA56 AK3	DDR0_DQ[56]	DDR0_ODT[0]
MDA57 AH1	DDR0_DQ[57]	DDR0_ODT[1]
MDA58 AK4	DDR0_DQ[58]	DDR0_ODT[2]
MDA59 AH2	DDR0_DQ[59]	DDR0_ODT[3]
MDA60 AH4	DDR0_DQ[60]	DDR0_ODT[0]
MDA61 AK2	DDR0_DQ[61]	DDR0_ODT[1]
MDA62 AH3	DDR0_DQ[62]	DDR0_ODT[2]
MDA63 AK1	DDR0_DQ[63]	DDR0_ODT[3]

LGA1151

1 OF 12

ILM_BP_CR/115X/NORMAL NI[12KRC-0F0001-52R]

CPU-SK/1151/S/GF



Need check the new CPU ME

LGA1151B	SKT_H4	LGA1151B
MDB0 AD34	DDR1_DQ[0]/DDR0_DQ[16]	DDR1_CKP[0]
MDB1 AD35	DDR1_DQ[1]/DDR0_DQ[17]	DDR1_CKP[0]
MDB2 AG35	DDR1_DQ[2]/DDR0_DQ[18]	DDR1_CKP[1]
MDB3 AH35	DDR1_DQ[3]/DDR0_DQ[19]	DDR1_CKP[1]
MDB4 AE35	DDR1_DQ[4]/DDR0_DQ[20]	DDR1_CKP[2]
MDB5 AE34	DDR1_DQ[5]/DDR0_DQ[21]	DDR1_CKP[2]
MDB6 AG34	DDR1_DQ[6]/DDR0_DQ[22]	DDR1_CKP[3]
MDB7 AH34	DDR1_DQ[7]/DDR0_DQ[23]	DDR1_CKP[3]
MDB8 AK35	DDR1_DQ[8]/DDR0_DQ[24]	DDR1_CKE[0]
MDB9 AL35	DDR1_DQ[9]/DDR0_DQ[25]	DDR1_CKE[1]
MDB10 AL32	DDR1_DQ[10]/DDR0_DQ[26]	DDR1_CKE[2]
MDB11 AL32	DDR1_DQ[11]/DDR0_DQ[27]	DDR1_CKE[3]
MDB12 AK34	DDR1_DQ[12]/DDR0_DQ[28]	DDR1_CS[0]
MDB13 AL34	DDR1_DQ[13]/DDR0_DQ[29]	DDR1_CS[1]
MDB14 AK31	DDR1_DQ[14]/DDR0_DQ[30]	DDR1_CS[2]
MDB15 AL31	DDR1_DQ[15]/DDR0_DQ[31]	DDR1_CS[3]
MDB16 AP35	DDR1_DQ[16]/DDR0_DQ[32]	DDR1_ODT[0]
MDB17 AN35	DDR1_DQ[17]/DDR0_DQ[33]	DDR1_ODT[1]
MDB18 AN32	DDR1_DQ[18]/DDR0_DQ[34]	DDR1_ODT[2]
MDB19 AP32	DDR1_DQ[19]/DDR0_DQ[35]	DDR1_ODT[3]
MDB20 AN34	DDR1_DQ[20]/DDR0_DQ[36]	DDR1_ODT[0]
MDB21 AP34	DDR1_DQ[21]/DDR0_DQ[37]	DDR1_ODT[1]
MDB22 AN31	DDR1_DQ[22]/DDR0_DQ[38]	DDR1_ODT[2]
MDB23 AP31	DDR1_DQ[23]/DDR0_DQ[39]	DDR1_ODT[3]
MDB24 AL29	DDR1_DQ[24]/DDR0_DQ[40]	DDR1_ODT[0]
MDB25 AM29	DDR1_DQ[25]/DDR0_DQ[41]	DDR1_ODT[1]
MDB26 AP29	DDR1_DQ[26]/DDR0_DQ[42]	DDR1_ODT[2]
MDB27 AR29	DDR1_DQ[27]/DDR0_DQ[43]	DDR1_ODT[3]
MDB28 AM28	DDR1_DQ[28]/DDR0_DQ[44]	DDR1_ODT[0]
MDB29 AL28	DDR1_DQ[29]/DDR0_DQ[45]	DDR1_ODT[1]
MDB30 AR28	DDR1_DQ[30]/DDR0_DQ[46]	DDR1_ODT[2]
MDB31 AR28	DDR1_DQ[31]/DDR0_DQ[47]	DDR1_ODT[3]
MDB32 AR12	DDR1_DQ[32]/DDR0_DQ[48]	DDR1_ODT[0]
MDB33 AP12	DDR1_DQ[33]/DDR0_DQ[49]	DDR1_ODT[1]
MDB34 AM13	DDR1_DQ[34]/DDR0_DQ[50]	DDR1_ODT[2]
MDB35 AL13	DDR1_DQ[35]/DDR0_DQ[51]	DDR1_ODT[3]
MDB36 AR13	DDR1_DQ[36]/DDR0_DQ[52]	DDR1_ODT[0]
MDB37 AP13	DDR1_DQ[37]/DDR0_DQ[53]	DDR1_ODT[1]
MDB38 AM12	DDR1_DQ[38]/DDR0_DQ[54]	DDR1_ODT[2]
MDB39 AL12	DDR1_DQ[39]/DDR0_DQ[55]	DDR1_ODT[3]
MDB40 AP10	DDR1_DQ[40]/DDR0_DQ[56]	DDR1_ODT[0]
MDB41 AR10	DDR1_DQ[41]/DDR0_DQ[57]	DDR1_ODT[1]
MDB42 AR7	DDR1_DQ[42]/DDR0_DQ[58]	DDR1_ODT[2]
MDB43 AP7	DDR1_DQ[43]/DDR0_DQ[59]	DDR1_ODT[3]
MDB44 AR9	DDR1_DQ[44]/DDR0_DQ[60]	DDR1_ODT[0]
MDB45 AP9	DDR1_DQ[45]/DDR0_DQ[61]	DDR1_ODT[1]
MDB46 AR6	DDR1_DQ[46]/DDR0_DQ[62]	DDR1_ODT[2]
MDB47 AP6	DDR1_DQ[47]/DDR0_DQ[63]	DDR1_ODT[3]
MDB48 AM10	DDR1_DQ[48]	DDR1_ODT[0]
MDB49 AL10	DDR1_DQ[49]	DDR1_ODT[1]
MDB50 AM7	DDR1_DQ[50]	DDR1_ODT[2]
MDB51 AL7	DDR1_DQ[51]	DDR1_ODT[3]
MDB52 AM9	DDR1_DQ[52]	DDR1_ODT[0]
MDB53 AL9	DDR1_DQ[53]	DDR1_ODT[1]
MDB54 AL6	DDR1_DQ[54]	DDR1_ODT[2]
MDB55 AL6	DDR1_DQ[55]	DDR1_ODT[3]
MDB56 AL6	DDR1_DQ[56]	DDR1_ODT[0]
MDB57 AL7	DDR1_DQ[57]	DDR1_ODT[1]
MDB58 AE6	DDR1_DQ[58]	DDR1_ODT[2]
MDB59 AE7	DDR1_DQ[59]	DDR1_ODT[3]
MDB60 AH7	DDR1_DQ[60]	DDR1_ODT[0]
MDB61 AH6	DDR1_DQ[61]	DDR1_ODT[1]
MDB62 AE7	DDR1_DQ[62]	DDR1_ODT[2]
MDB63 AE6	DDR1_DQ[63]	DDR1_ODT[3]

LGA1151B	SKT_H4	LGA1151B
MDB0 AD34	DDR1_DQ[0]/DDR0_DQ[16]	DDR1_CKP[0]
MDB1 AD35	DDR1_DQ[1]/DDR0_DQ[17]	DDR1_CKP[0]
MDB2 AG35	DDR1_DQ[2]/DDR0_DQ[18]	DDR1_CKP[1]
MDB3 AH35	DDR1_DQ[3]/DDR0_DQ[19]	DDR1_CKP[1]
MDB4 AE35	DDR1_DQ[4]/DDR0_DQ[20]	DDR1_CKP[2]
MDB5 AE34	DDR1_DQ[5]/DDR0_DQ[21]	DDR1_CKP[2]
MDB6 AG34	DDR1_DQ[6]/DDR0_DQ[22]	DDR1_CKP[3]
MDB7 AH34	DDR1_DQ[7]/DDR0_DQ[23]	DDR1_CKP[3]
MDB8 AK35	DDR1_DQ[8]/DDR0_DQ[24]	DDR1_CKE[0]
MDB9 AL35	DDR1_DQ[9]/DDR0_DQ[25]	DDR1_CKE[1]
MDB10 AL32	DDR1_DQ[10]/DDR0_DQ[26]	DDR1_CKE[2]
MDB11 AL32	DDR1_DQ[11]/DDR0_DQ[27]	DDR1_CKE[3]
MDB12 AK34	DDR1_DQ[12]/DDR0_DQ[28]	DDR1_CS[0]
MDB13 AL34	DDR1_DQ[13]/DDR0_DQ[29]	DDR1_CS[1]
MDB14 AK31	DDR1_DQ[14]/DDR0_DQ[30]	DDR1_CS[2]
MDB15 AL31	DDR1_DQ[15]/DDR0_DQ[31]	DDR1_CS[3]
MDB16 AP35	DDR1_DQ[16]/DDR0_DQ[32]	DDR1_ODT[0]
MDB17 AN35	DDR1_DQ[17]/DDR0_DQ[33]	DDR1_ODT[1]
MDB18 AN32	DDR1_DQ[18]/DDR0_DQ[34]	DDR1_ODT[2]
MDB19 AP32	DDR1_DQ[19]/DDR0_DQ[35]	DDR1_ODT[3]
MDB20 AN34	DDR1_DQ[20]/DDR0_DQ[36]	DDR1_ODT[0]
MDB21 AP34	DDR1_DQ[21]/DDR0_DQ[37]	DDR1_ODT[1]
MDB22 AN31	DDR1_DQ[22]/DDR0_DQ[38]	DDR1_ODT[2]
MDB23 AP31	DDR1_DQ[23]/DDR0_DQ[39]	DDR1_ODT[3]
MDB24 AL29	DDR1_DQ[24]/DDR0_DQ[40]	DDR1_ODT[0]
MDB25 AM29	DDR1_DQ[25]/DDR0_DQ[41]	DDR1_ODT[1]
MDB26 AP29	DDR1_DQ[26]/DDR0_DQ[42]	DDR1_ODT[2]
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MDB28 AM28	DDR1_DQ[28]/DDR0_DQ[44]	DDR1_ODT[0]
MDB29 AL28	DDR1_DQ[29]/DDR0_DQ[45]	DDR1_ODT[1]
MDB30 AR28	DDR1_DQ[30]/DDR0_DQ[46]	DDR1_ODT[2]
MDB31 AR28	DDR1_DQ[31]/DDR0_DQ[47]	DDR1_ODT[3]
MDB32 AR12	DDR1_DQ[32]/DDR0_DQ[48]	DDR1_ODT[0]
MDB33 AP12	DDR1_DQ[33]/DDR0_DQ[49]	DDR1_ODT[1]
MDB34 AM13	DDR1_DQ[34]/DDR0_DQ[50]	DDR1_ODT[2]
MDB35 AL13	DDR1_DQ[35]/DDR0_DQ[51]	DDR1_ODT[3]
MDB36 AR13	DDR1_DQ[36]/DDR0_DQ[52]	DDR1_ODT[0]
MDB37 AP13	DDR1_DQ[37]/DDR0_DQ[53]	DDR1_ODT[1]
MDB38 AM12	DDR1_DQ[38]/DDR0_DQ[54]	DDR1_ODT[2]
MDB39 AL12	DDR1_DQ[39]/DDR0_DQ[55]	DDR1_ODT[3]
MDB40 AP10	DDR1_DQ[40]/DDR0_DQ[56]	DDR1_ODT[0]
MDB41 AR10	DDR1_DQ[41]/DDR0_DQ[57]	DDR1_ODT[1]
MDB42 AR7	DDR1_DQ[42]/DDR0_DQ[58]	DDR1_ODT[2]
MDB43 AP7	DDR1_DQ[43]/DDR0_DQ[59]	DDR1_ODT[3]
MDB44 AR9	DDR1_DQ[44]/DDR0_DQ[60]	DDR1_ODT[0]
MDB45 AP9	DDR1_DQ[45]/DDR0_DQ[61]	DDR1_ODT[1]
MDB46 AR6	DDR1_DQ[46]/DDR0_DQ[62]	DDR1_ODT[2]
MDB47 AP6	DDR1_DQ[47]/DDR0_DQ[63]	DDR1_ODT[3]
MDB48 AM10	DDR1_DQ[48]	DDR1_ODT[0]
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MDB51 AL7	DDR1_DQ[51]	DDR1_ODT[3]
MDB52 AM9	DDR1_DQ[52]	DDR1_ODT[0]
MDB53 AL9	DDR1_DQ[53]	DDR1_ODT[1]
MDB54 AL6	DDR1_DQ[54]	DDR1_ODT[2]
MDB55 AL6	DDR1_DQ[55]	DDR1_ODT[3]
MDB56 AL6	DDR1_DQ[56]	DDR1_ODT[0]
MDB57 AL7	DDR1_DQ[57]	DDR1_ODT[1]
MDB58 AE6	DDR1_DQ[58]	DDR1_ODT[2]
MDB59 AE7	DDR1_DQ[59]	DDR1_ODT[3]
MDB60 AH7	DDR1_DQ[60]	DDR1_ODT[0]
MDB61 AH6	DDR1_DQ[61]	DDR1_ODT[1]
MDB62 AE7	DDR1_DQ[62]	DDR1_ODT[2]
MDB63 AE6	DDR1_DQ[63]	DDR1_ODT[3]

DDR CHANNEL B

2 OF 12

(8) MODT_A[0..3]	MODT_A10..31
(9) MODT_B[0..3]	MODT_B10..31
(8) MDA[0..63]	MDA10..63
(9) MDB[0..63]	MDB10..63
(8) M_DQSA[0..7]	M_DQSA10..71
(8) M_-DQSA[0..7]	M_-DQSA10..71
(8) MAAA[0..16]	MAAA10..161
(9) MAAB[0..16]	MAAB10..161
(9) M_DQSB[0..7]	M_DQSB10..71
(9) M_-DQSB[0..7]	M_-DQSB10..71

Gigabyte Technology

Title

CPU LGA1151-B

Size

Document Number

GA-Z170-Wind

Rev

1.0

Date

Wednesday, May 25, 2016

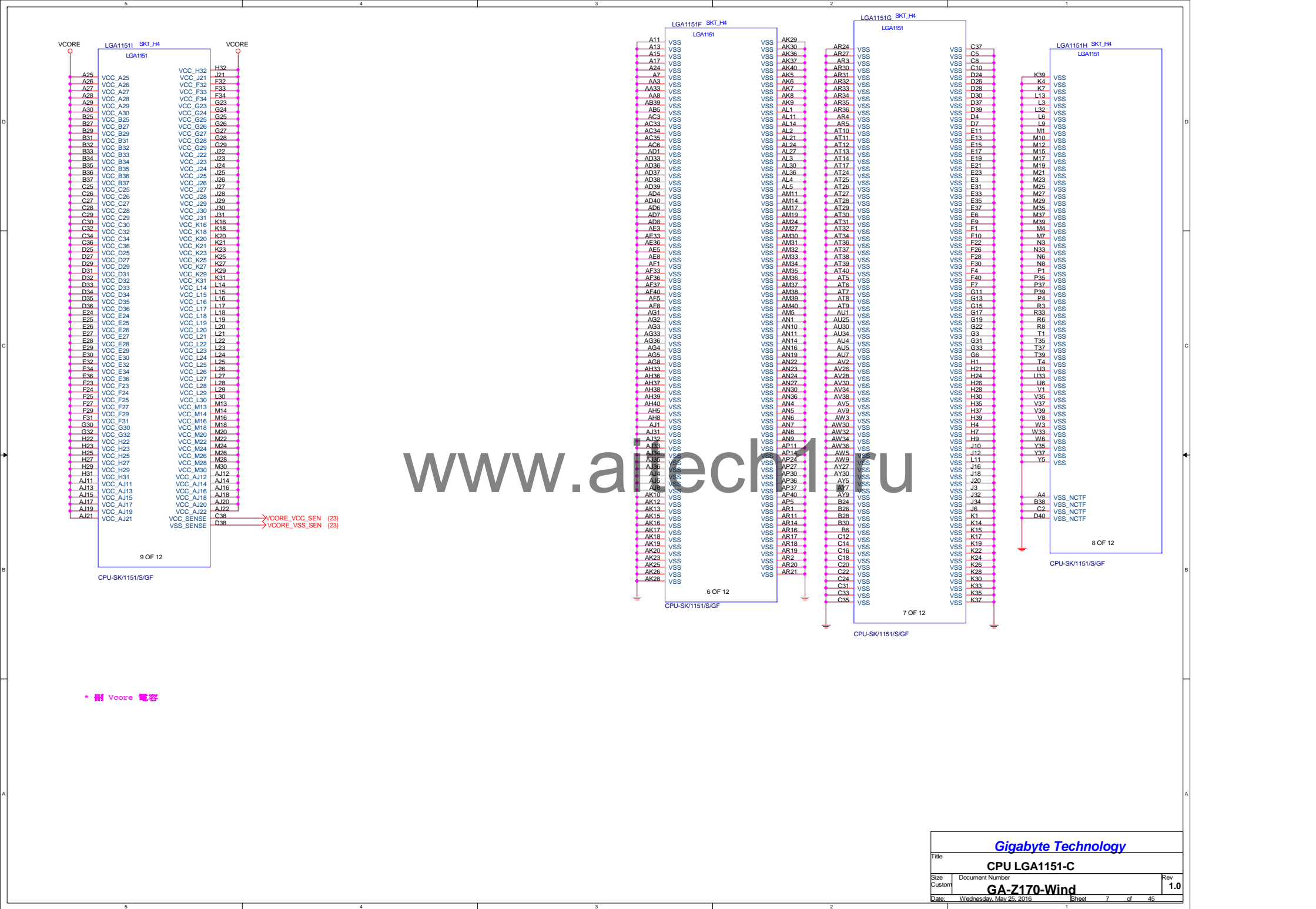
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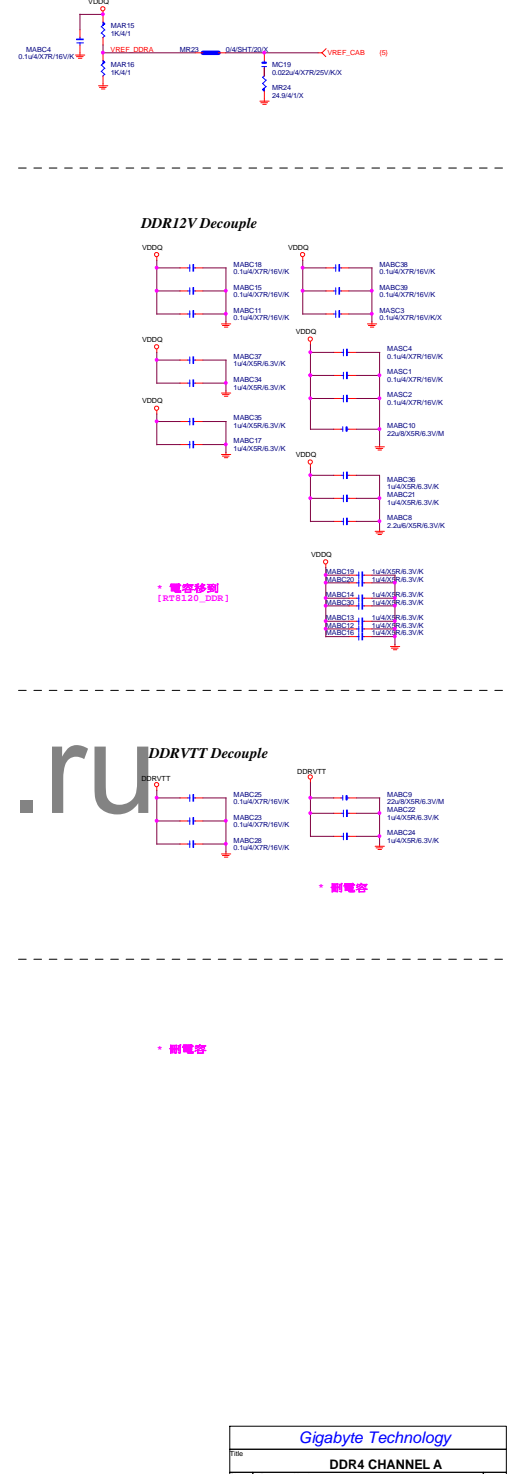
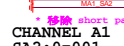
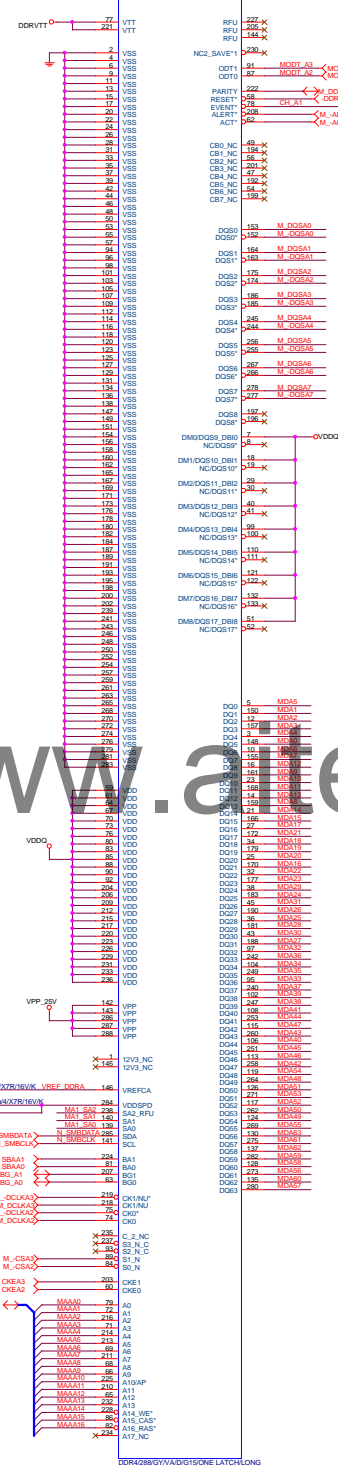
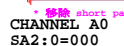
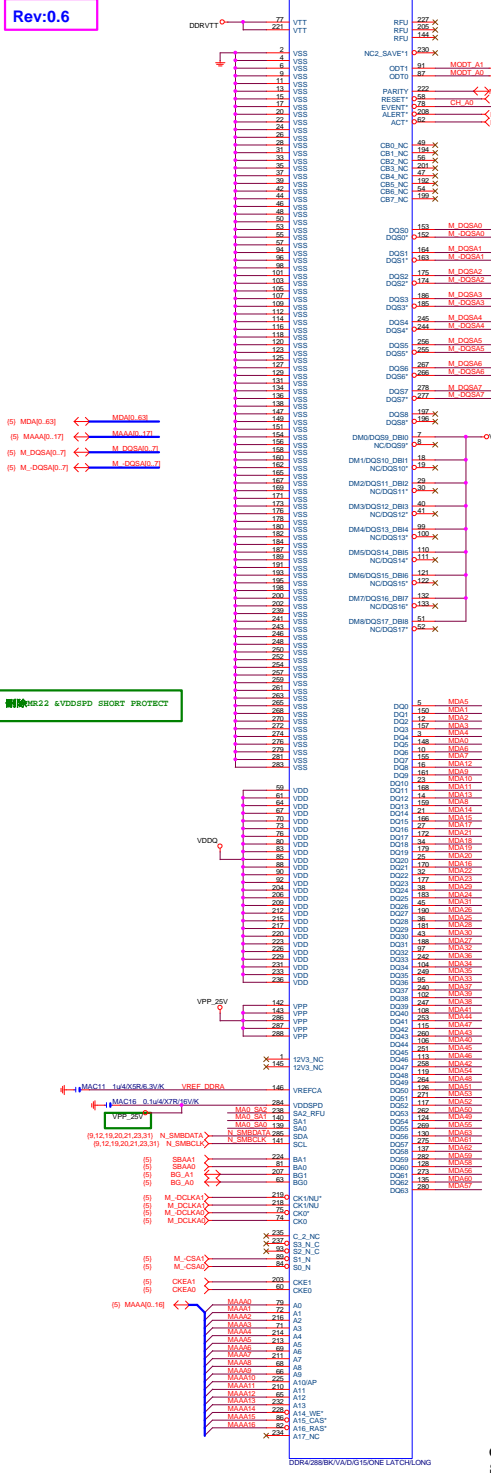
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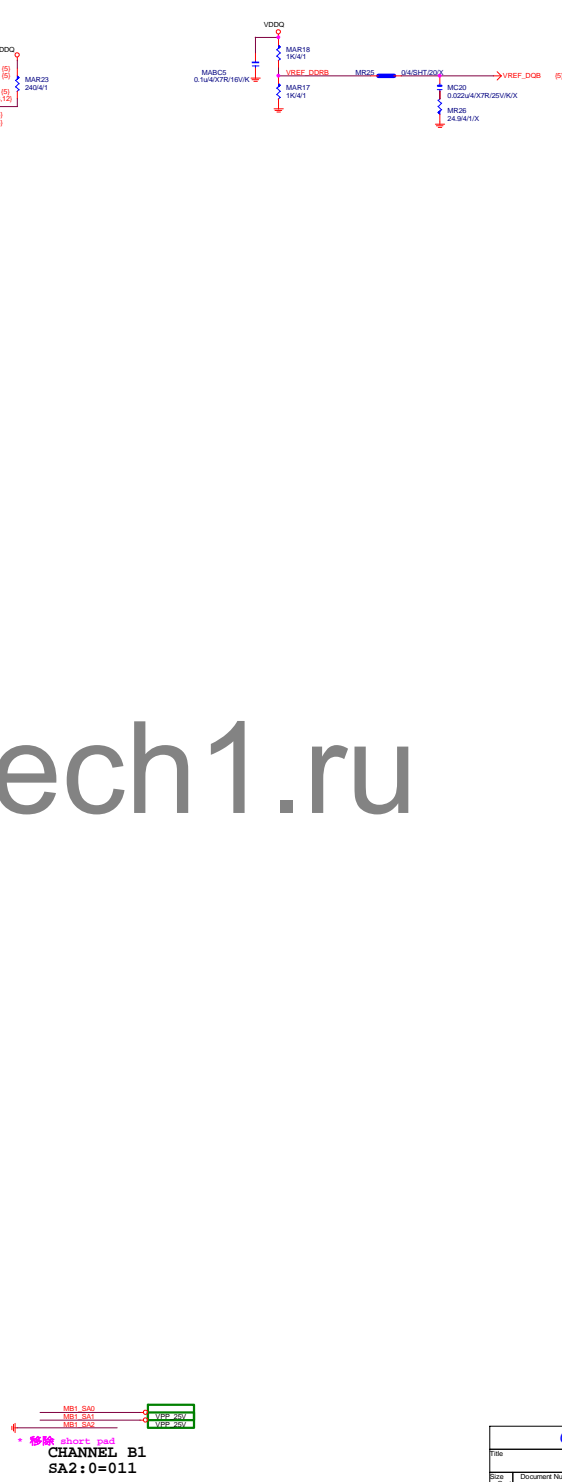
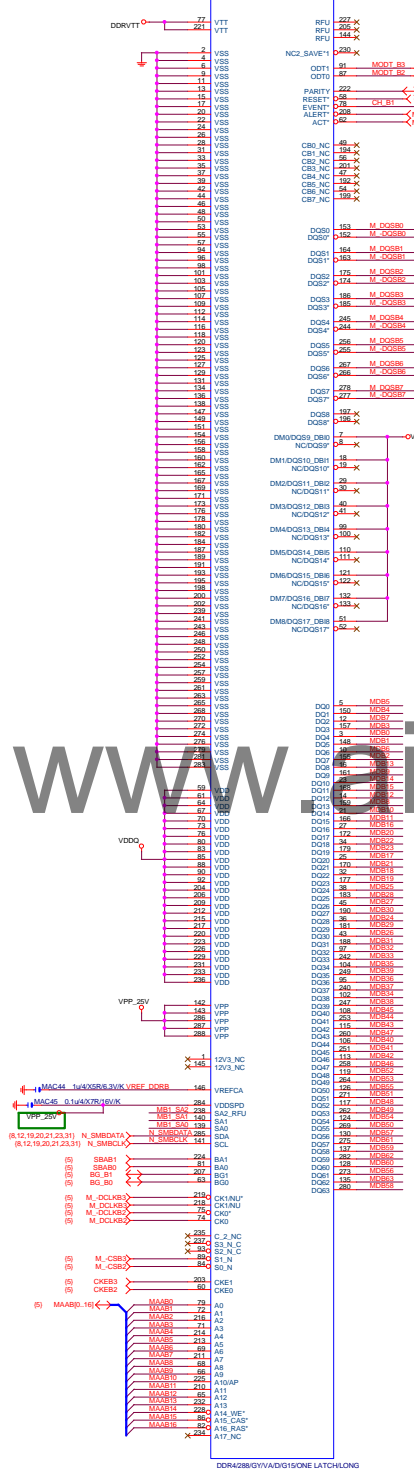
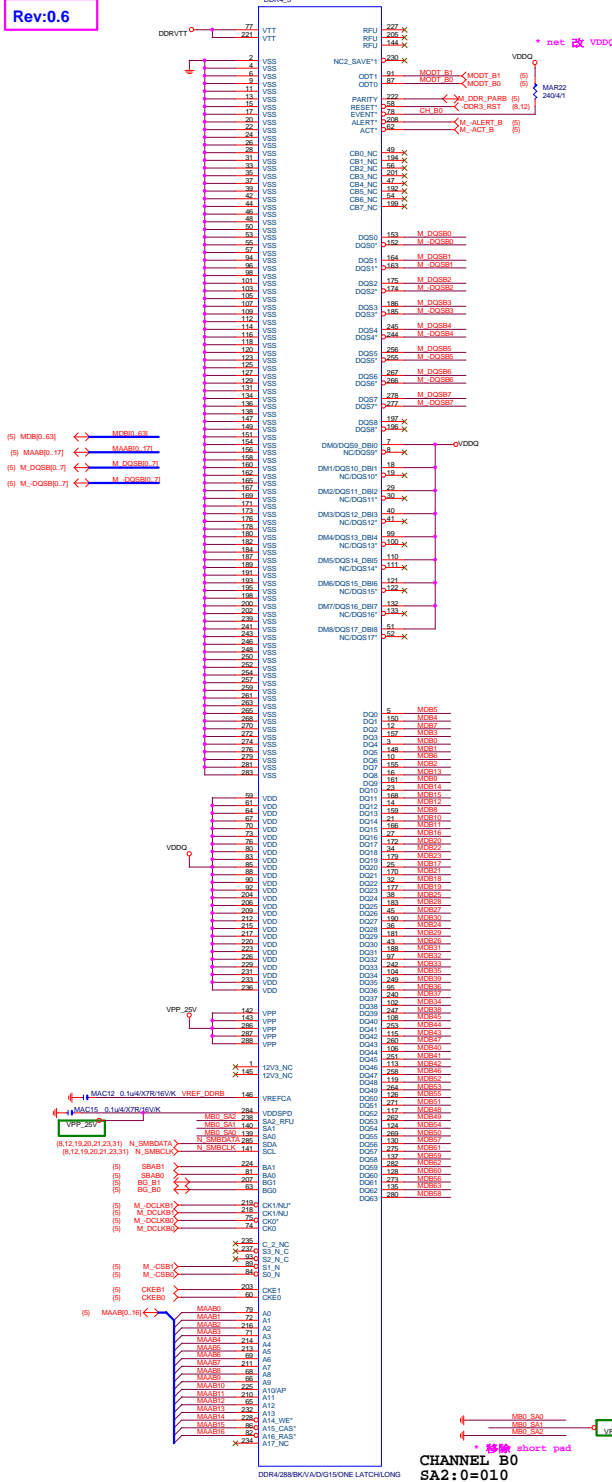
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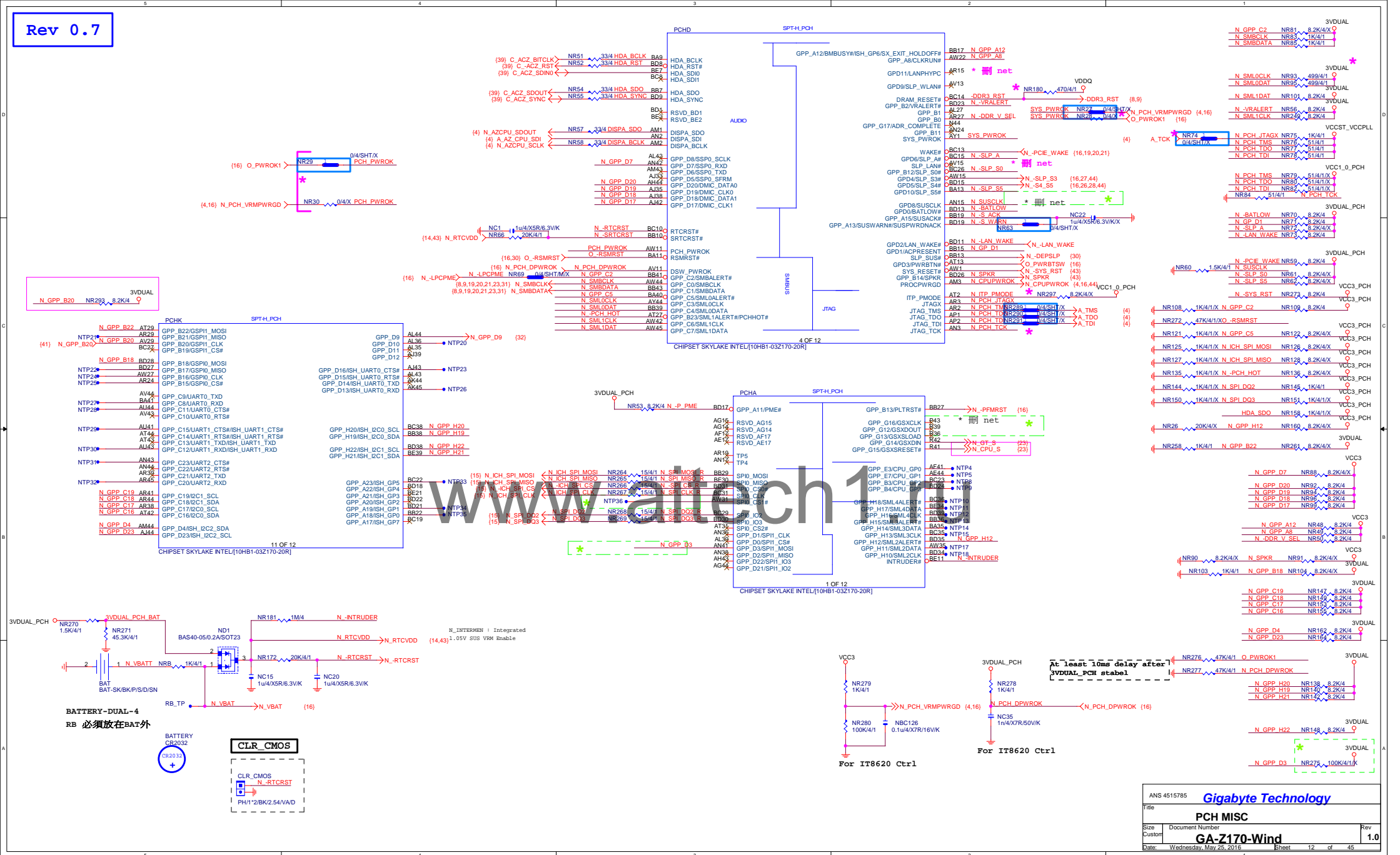
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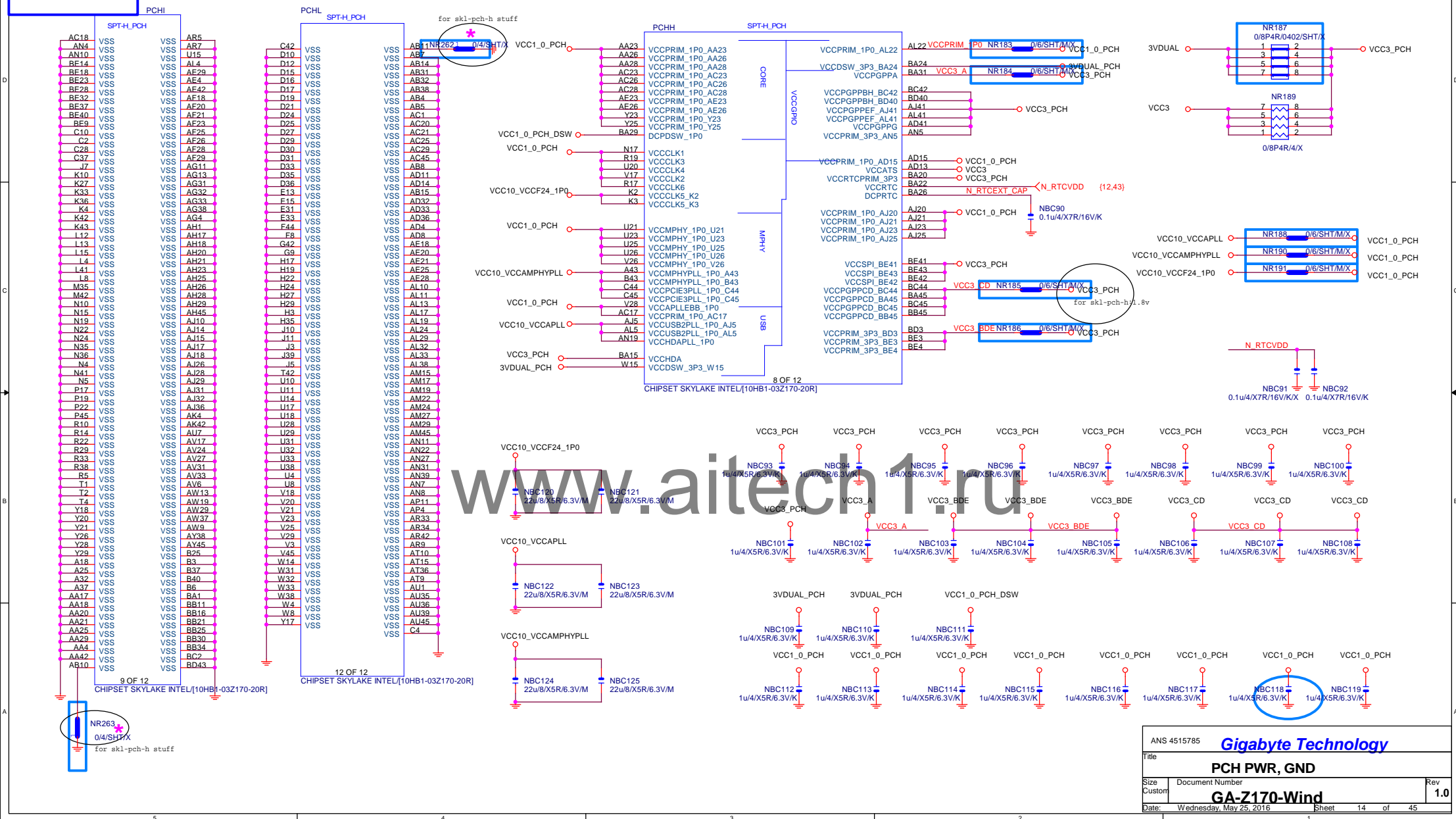
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AC40 VREF_DQB	VREF_DQB (9)

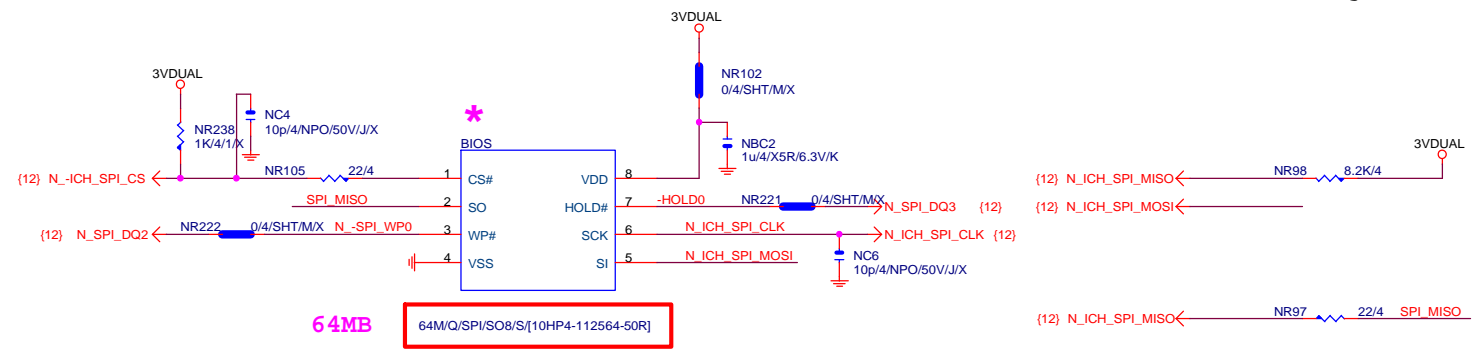




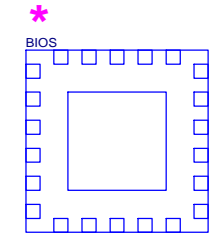








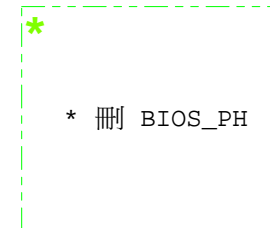
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LCP/G-FL/1.27mm/200MIL/WHITE[10SL2-000008-31R]X



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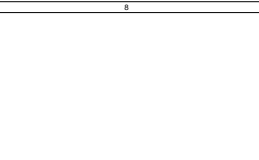
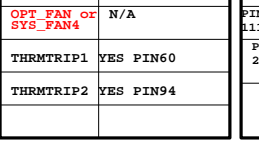
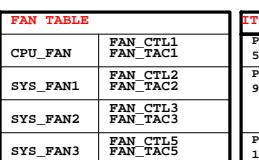
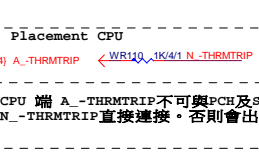
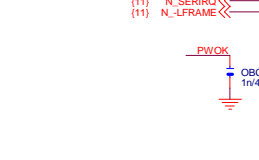
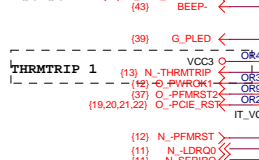
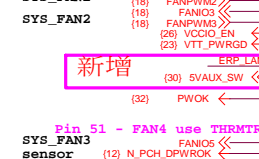
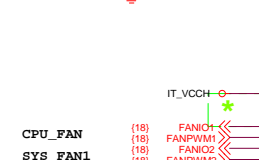
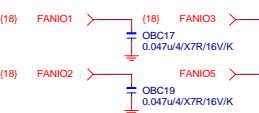


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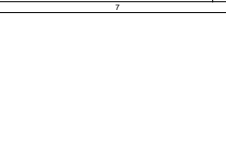
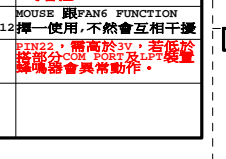
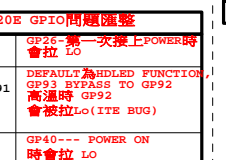
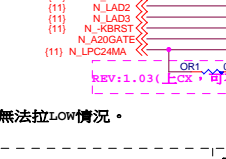
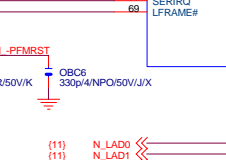
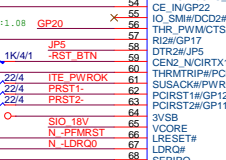
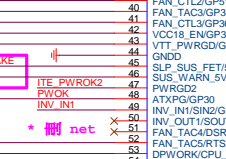
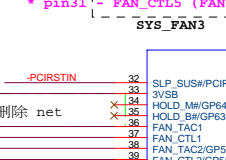
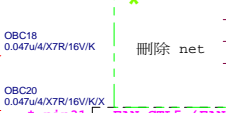
Gigabyte Technology

Title		BIOS	
Size	Document Number	GAZ170-Wind	
Custom		Rev 1.0	
Date: Wednesday, May 25, 2016		Sheet 15	of 45

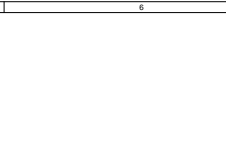
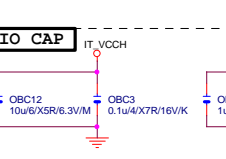
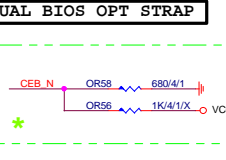
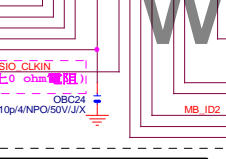
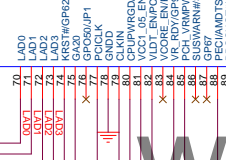
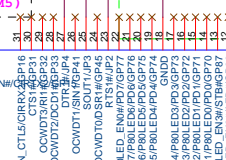
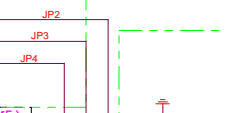
SIO IT8628BX REV:1.09



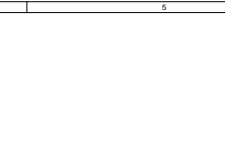
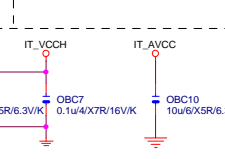
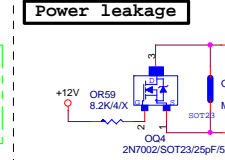
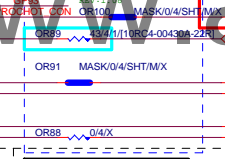
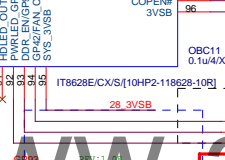
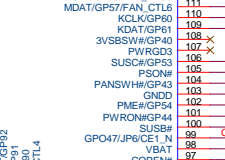
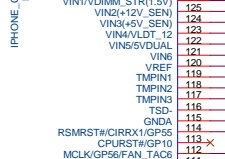
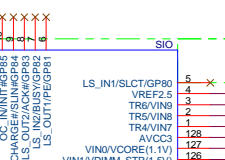
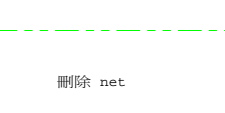
IT8628E_GPIO問題匯整



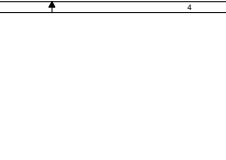
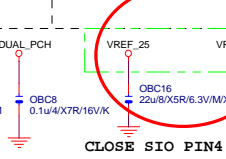
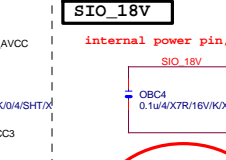
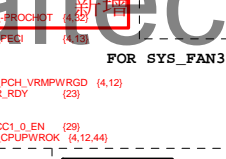
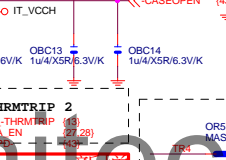
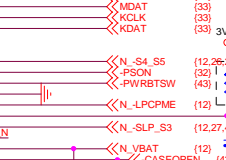
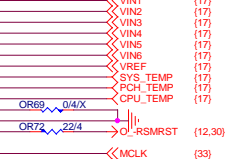
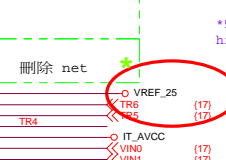
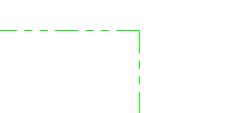
DUAL BIOS OPT STRAP



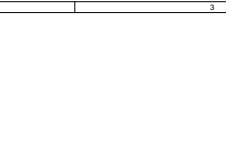
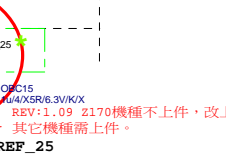
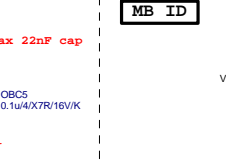
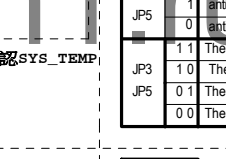
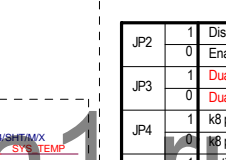
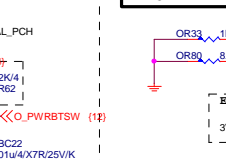
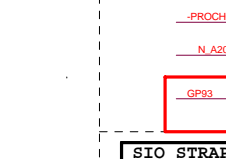
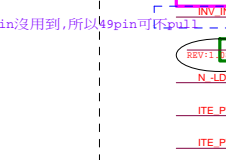
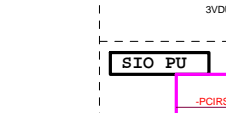
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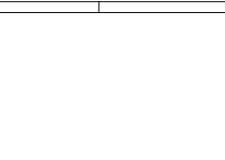
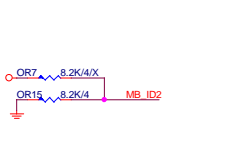
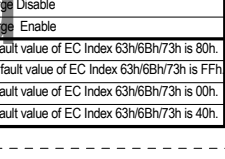
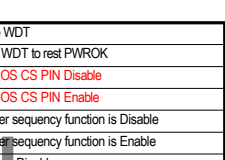
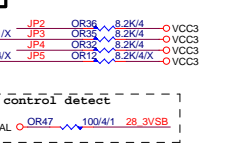
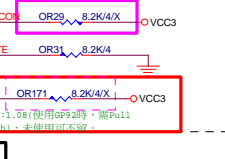
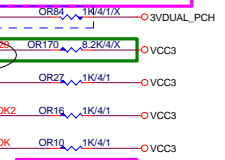
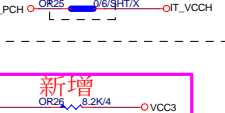
SIO_18V



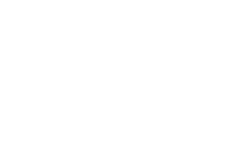
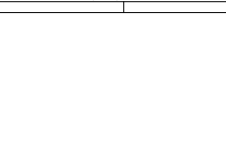
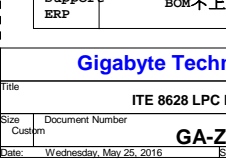
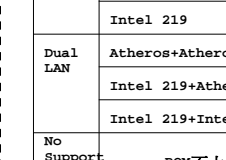
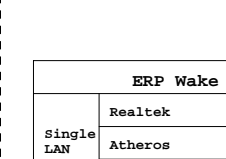
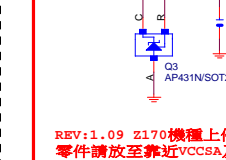
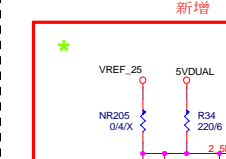
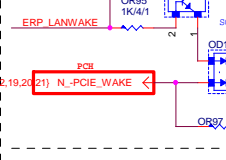
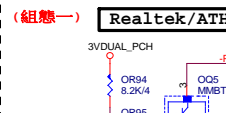
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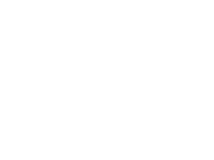
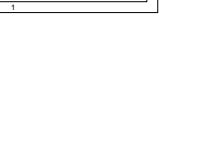
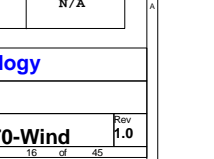
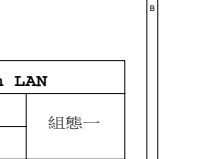
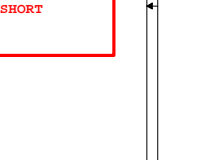
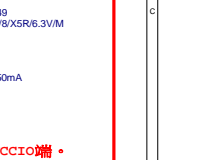
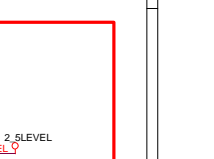
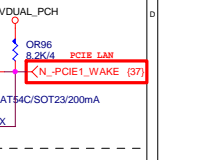
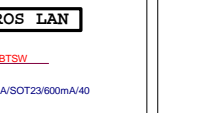
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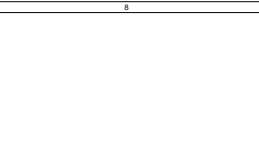
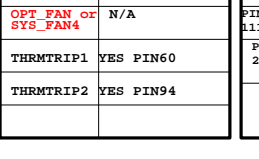
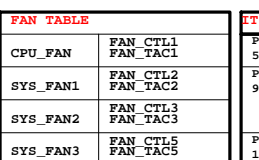
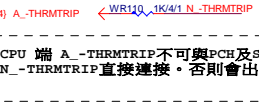
ERP WAKE on LAN (依LAN組態選擇)



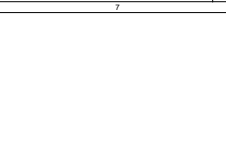
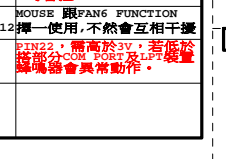
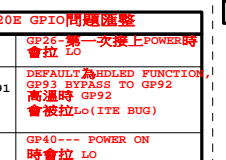
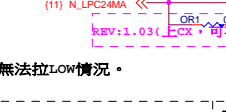
Realtek/ATHEROS LAN



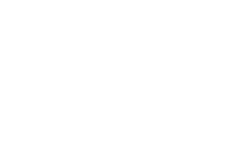
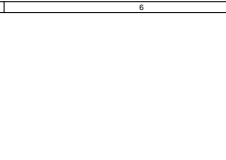
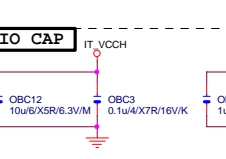
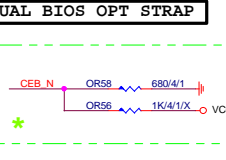
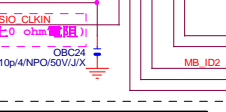
Placement CPU



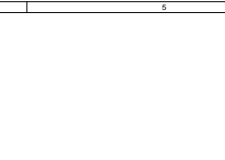
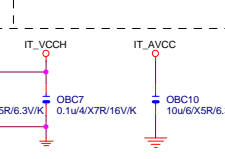
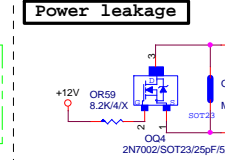
CPU 端 A - THRMTRIP 不可與PCH及SIO N - THRMTRIP直接連接。否則會出現無法拉LOW情況。



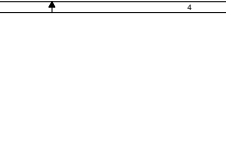
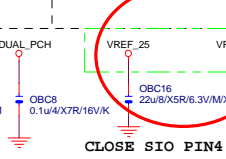
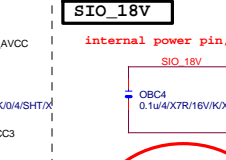
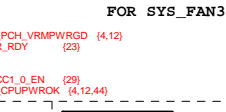
THRMTRIP 2



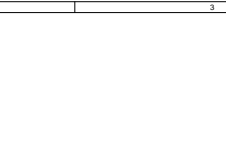
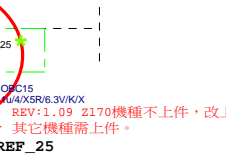
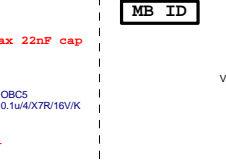
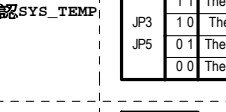
FOR SYS_FAN3確認SYS_TEMP



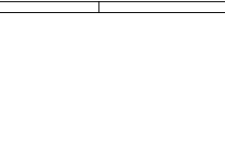
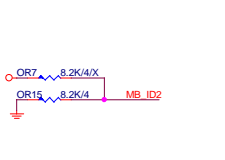
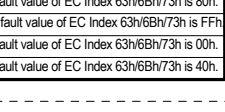
internal power pin, max 22nF cap



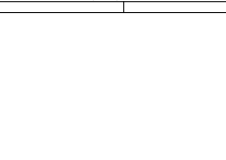
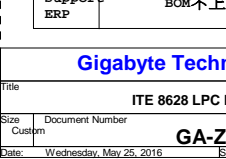
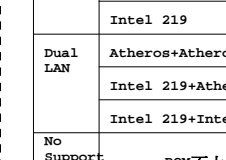
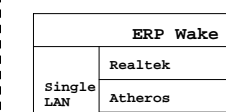
CLOSE SIO PIN4 VREF_25



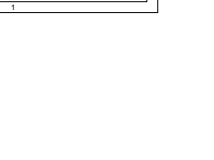
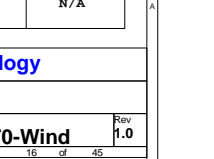
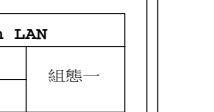
REV:1.09 Z170機種不上件，改上AP431。



Single LAN



Dual LAN



FAN TABLE

CPU_FAN	FAN_CTL1 FAN_TAC1
SYS_FAN1	FAN_CTL2 FAN_TAC2
SYS_FAN2	FAN_CTL3 FAN_TAC3
SYS_FAN3	FAN_CTL5 FAN_TAC5
OPT_FAN or SYS_FAN4	N/A
THRMTRIP1	YES PIN60
THRMTRIP2	YES PIN94

IT8628E_GPIO問題匯整

PIN 50	GP26-第一次接上POWER時會拉 Lo
PIN 90/91	DEFAULT為HDLed FUNCTION, GP93 BYPASS TO GP92 高溫時會拉Lo(ITE BUG)
PIN 108	GP40--- POWER ON 時會拉 Lo
PIN 111/112	MOUSE 跟FAN6 FUNCTION 擇一使用，不然會互相干擾
PIN 22	PIN22，需高於3V，若低於此部分COM PORT及LPT裝置 蜂鳴器會異常動作。

DUAL BIOS OPT STRAP

CEB N	OR58 680/4/1
OR56	1K/4/1X VCC3

Power leakage

IT_AVCC	OR8
MASK/0/4/SHT/MX	OR4
VCC3	2N7002/SOT23/25pF/5/X

SIO_18V

ORC4	0.1u/4/X7R/16V/K/X
ORC5	0.1u/4/X7R/16V/K/X

SIO CAP

ORC12	10u/6/X5R/6.3V/M
ORC3	0.1u/4/X7R/16V/K
ORC7	0.1u/4/X7R/16V/K
ORC10	10u/6/X5R/6.3V/M
ORC8	0.1u/4/X7R/16V/K
ORC16	22u/8/X5R/6.3V/M/X
ORC15	0.1u/4/X5R/6.3V/K/X

MB ID

VCC3	OR7 8.2K/4/X
OR15	8.2K/4/X
MB_ID2	

Single LAN

Realtek	組態一
Atheros	
Intel 219	組態二

Dual LAN

Atheros+Atheros	組態一
Intel 219+Atheros	
Intel 219+Intel 210	組態三

No Support ERP

BOM不上	N/A
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Gigabyte Technology

ITE 8628 LPC IO	
GA-Z170-Wind	Rev 1.0

Rev:1.09 Z170機種不上件，改上AP431。

Rev:1.09 Z170機種不上件，改上AP431。	
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Rev:1.09 Z170機種不上件，改上AP431。

Rev:1.09 Z170機種不上件，改上AP431。	
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Rev:1.09 Z170機種不上件，改上AP431。

Rev:1.09 Z170機種不上件，改上AP431。	
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Rev:1.09 Z170機種不上件，改上AP431。

Rev:1.09 Z170機種不上件，改上AP431。	
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Rev:1.09 Z170機種不上件，改上AP431。

Rev:1.09 Z170機種不上件，改上AP431。	
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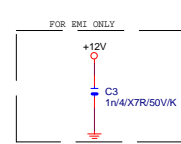
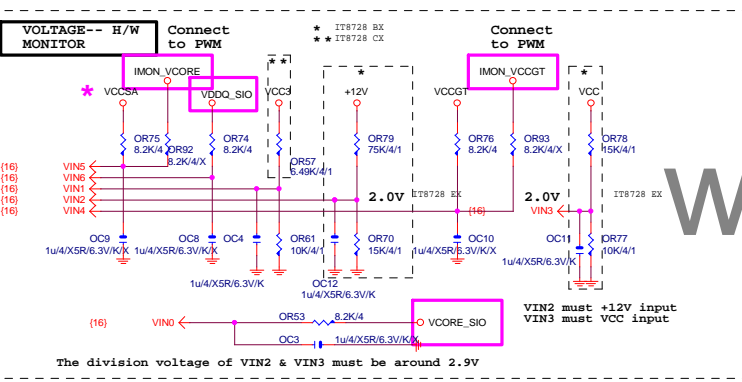
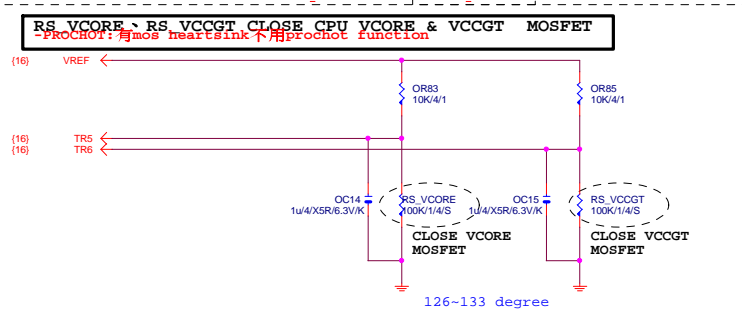
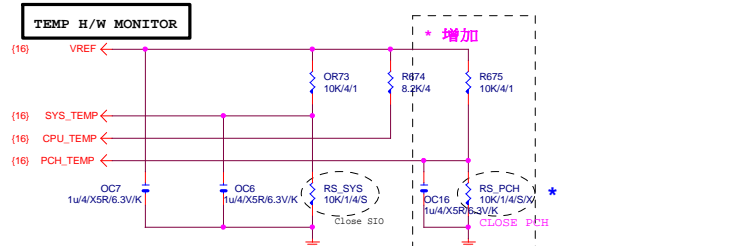
Rev:1.09 Z170機種不上件，改上AP431。

Rev:1.09 Z170機種不上件，改上AP431。	
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Rev:1.09 Z170機種不上件，改上AP431。

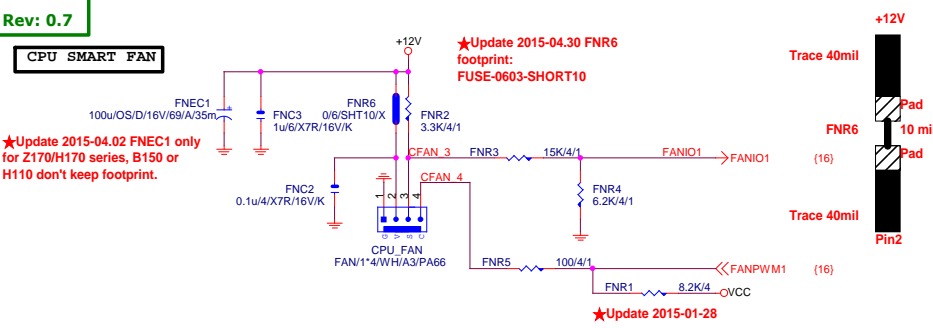
Rev:1.09 Z170機種不上件，改上AP431。	
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REV:1.07



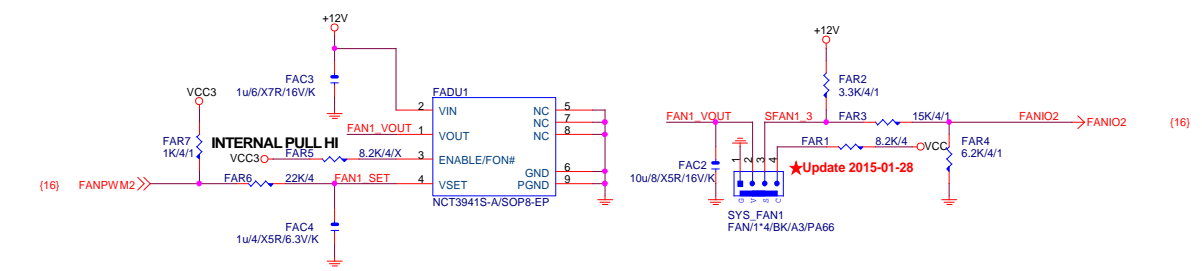
CPU SMART FAN

★Update 2015-04.02 FNEC1 only for Z170/H170 series, B150 or H110 don't keep footprint.



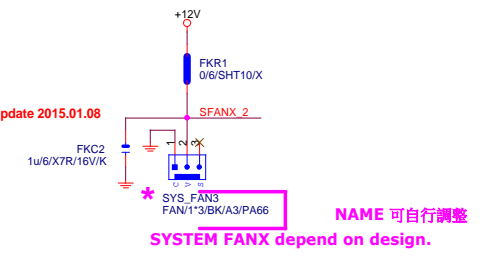
SYSTEM FAN1

Linear SYS_FAN
Enable Function (NCT3941S)
Full Turn On Function (NCT3941S-A)

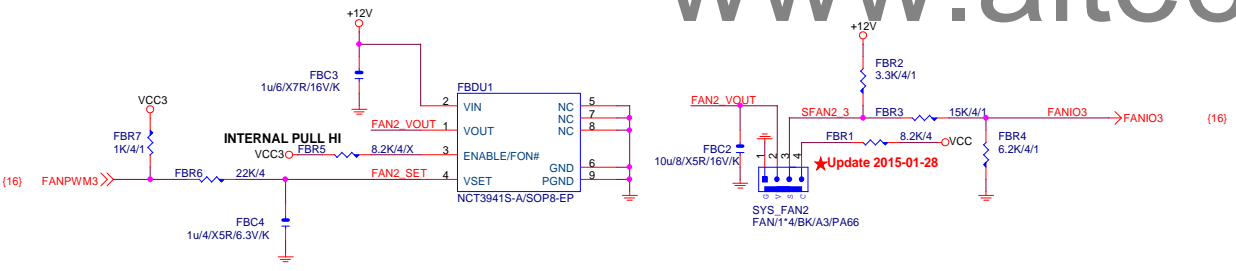


SYSTEM FANX

★Update 2015.01.08

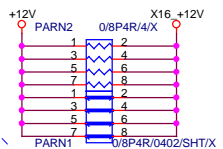


SYSTEM FAN2



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Rev 0.1

* +12 protect
short-wire test

(8,9,12,20,21,23,31) N_SMBCLK
(8,9,12,20,21,23,31) N_SMBDATA

(12,16,20,21) N_-PCIE_WAKE

(10) -PCIE16_PR

PA_EXP_RXP0_15] >> PA_EXP_RXP[0..15] (4)
PA_EXP_RXN0_15] >> PA_EXP_RXN[0..15] (4)
PA_EXP_TXP0_15] >> PA_EXP_TXP[0..15] (4)
PA_EXP_TXN0_15] >> PA_EXP_TXN[0..15] (4)

PA_EXP_TXP0	PAC5	0.22u/4/X5R/6.3V/K	PA_EXP_TXP0 C
PA_EXP_TXN0	PAC4	0.22u/4/X5R/6.3V/K	PA_EXP_TXN0 C
PA_EXP_TXP1	PAC6	0.22u/4/X5R/6.3V/K	PA_EXP_TXP1 C
PA_EXP_TXN1	PAC7	0.22u/4/X5R/6.3V/K	PA_EXP_TXN1 C
PA_EXP_TXP2	PAC8	0.22u/4/X5R/6.3V/K	PA_EXP_TXP2 C
PA_EXP_TXN2	PAC9	0.22u/4/X5R/6.3V/K	PA_EXP_TXN2 C
PA_EXP_TXP3	PAC10	0.22u/4/X5R/6.3V/K	PA_EXP_TXP3 C
PA_EXP_TXN3	PAC11	0.22u/4/X5R/6.3V/K	PA_EXP_TXN3 C
PA_EXP_TXP4	PAC12	0.22u/4/X5R/6.3V/K	PA_EXP_TXP4 C
PA_EXP_TXN4	PAC13	0.22u/4/X5R/6.3V/K	PA_EXP_TXN4 C
PA_EXP_TXP5	PAC14	0.22u/4/X5R/6.3V/K	PA_EXP_TXP5 C
PA_EXP_TXN5	PAC15	0.22u/4/X5R/6.3V/K	PA_EXP_TXN5 C
PA_EXP_TXP6	PAC16	0.22u/4/X5R/6.3V/K	PA_EXP_TXP6 C
PA_EXP_TXN6	PAC17	0.22u/4/X5R/6.3V/K	PA_EXP_TXN6 C
PA_EXP_TXP7	PAC18	0.22u/4/X5R/6.3V/K	PA_EXP_TXP7 C
PA_EXP_TXN7	PAC19	0.22u/4/X5R/6.3V/K	PA_EXP_TXN7 C
PA_EXP_TXP8	PAC20	0.22u/4/X5R/6.3V/K	PA_EXP_TXP8 C
PA_EXP_TXN8	PAC21	0.22u/4/X5R/6.3V/K	PA_EXP_TXN8 C
PA_EXP_TXP9	PAC22	0.22u/4/X5R/6.3V/K	PA_EXP_TXP9 C
PA_EXP_TXN9	PAC23	0.22u/4/X5R/6.3V/K	PA_EXP_TXN9 C
PA_EXP_TXP10	PAC24	0.22u/4/X5R/6.3V/K	PA_EXP_TXP10 C
PA_EXP_TXN10	PAC25	0.22u/4/X5R/6.3V/K	PA_EXP_TXN10 C
PA_EXP_TXP11	PAC26	0.22u/4/X5R/6.3V/K	PA_EXP_TXP11 C
PA_EXP_TXN11	PAC27	0.22u/4/X5R/6.3V/K	PA_EXP_TXN11 C
PA_EXP_TXP12	PAC28	0.22u/4/X5R/6.3V/K	PA_EXP_TXP12 C
PA_EXP_TXN12	PAC29	0.22u/4/X5R/6.3V/K	PA_EXP_TXN12 C
PA_EXP_TXP13	PAC30	0.22u/4/X5R/6.3V/K	PA_EXP_TXP13 C
PA_EXP_TXN13	PAC31	0.22u/4/X5R/6.3V/K	PA_EXP_TXN13 C
PA_EXP_TXP14	PAC32	0.22u/4/X5R/6.3V/K	PA_EXP_TXP14 C
PA_EXP_TXN14	PAC33	0.22u/4/X5R/6.3V/K	PA_EXP_TXN14 C
PA_EXP_TXP15	PAC34	0.22u/4/X5R/6.3V/K	PA_EXP_TXP15 C
PA_EXP_TXN15	PAC35	0.22u/4/X5R/6.3V/K	PA_EXP_TXN15 C

PCIE16:16/5/5/5/16

PCI-E REV:1.1--> 2.5GHZ

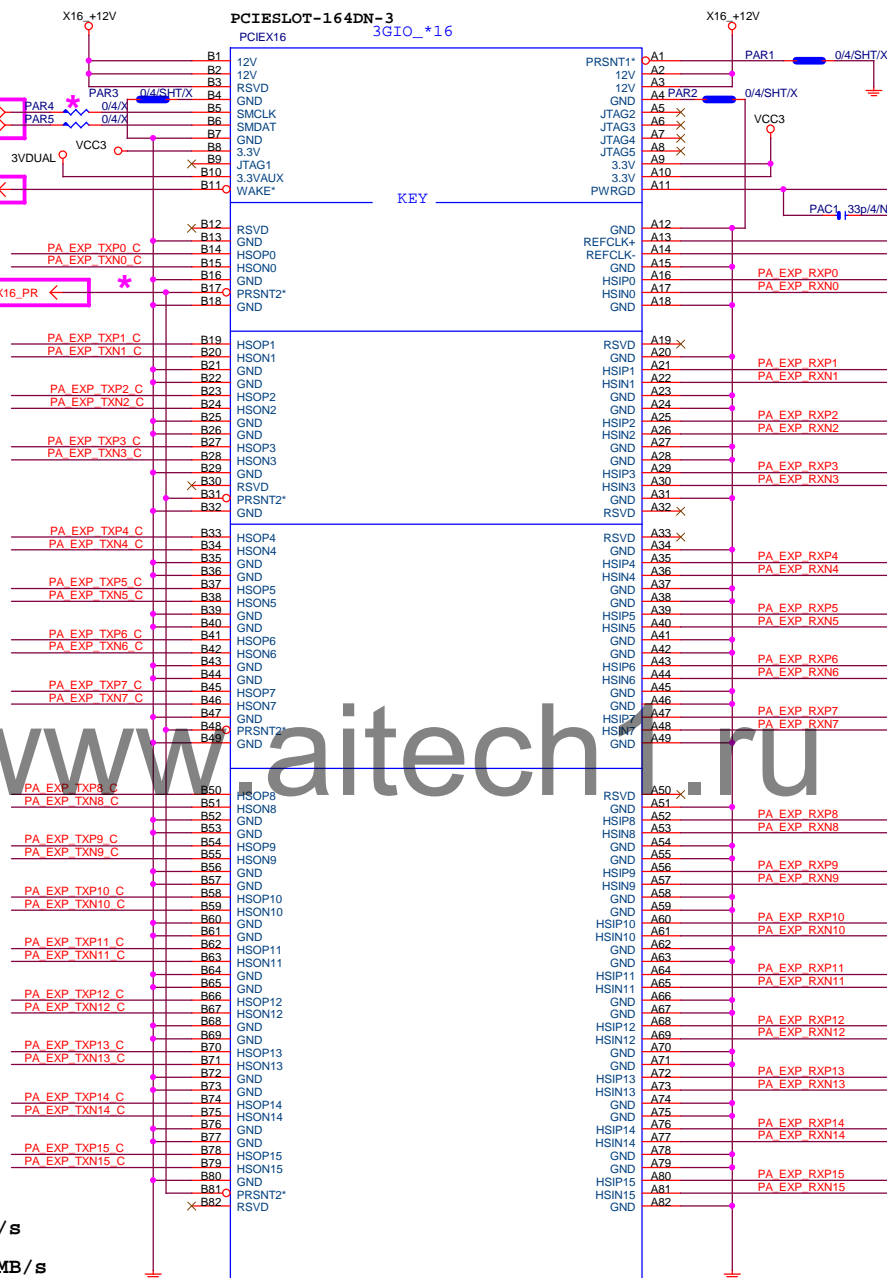
PCE-E X1(單向) BANDWIDTH=2.5GHz*(8b/10b)=2Gb/s=250MB/s

PCE-E X1(雙向) BANDWIDTH=2.5GHz*(8b/10b)X2=4Gb/s=500MB/s

PCE-E X16(單向) BANDWIDTH=2.5GHz*(8b/10b)X16=32Gb/s=4GB/s

PCE-E X16(雙向) BANDWIDTH=2.5GHz*(8b/10b)X16X2=64Gb/s=8GB/s

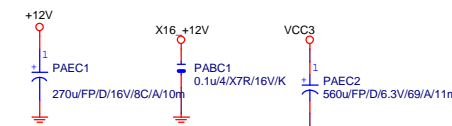
PCI-E REV:2.0--> 5GHZ



PCI-E/16X-164P/GY/LONG DOUBLE/HK*2

PCIE16需更新無強化孔的Footprint

一般Footprint :PCIESLOT-164P



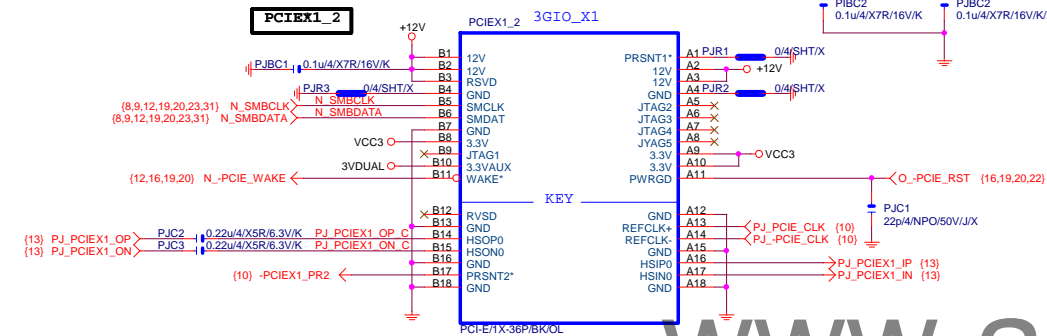
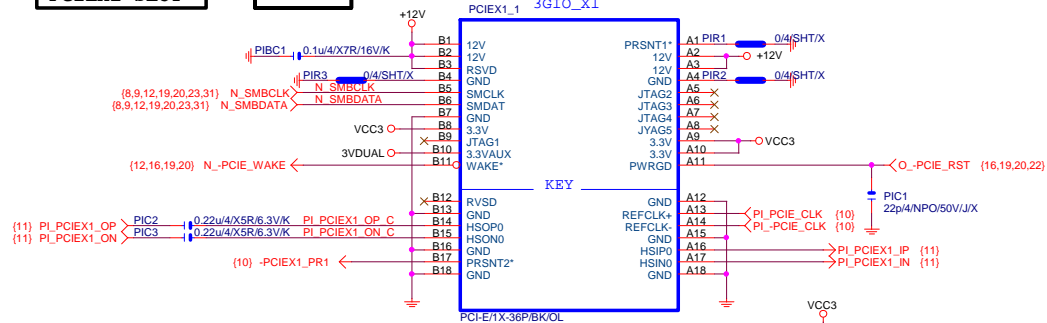
Gigabyte Technology

Title			PCI EXPRESS * 16	
Size			Document Number	
Custom			GA-Z170-Wind	
Date:			Wednesday, May 25, 2016	Sheet 19 of 45
			2	1

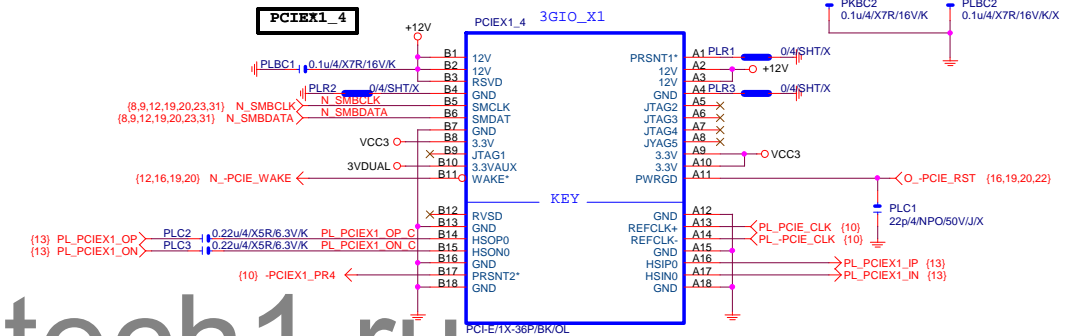
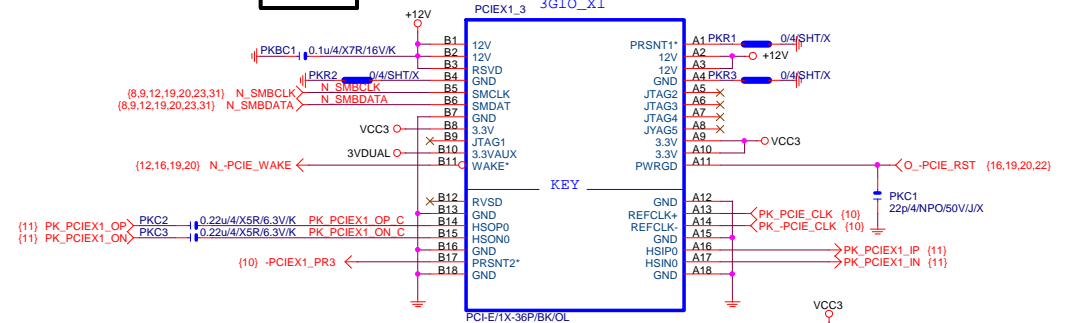
Rev 1.0

PCIEX1 SLOT

PCIEX1_1



PCIEX1_3



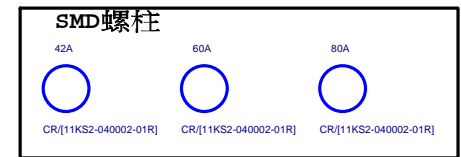
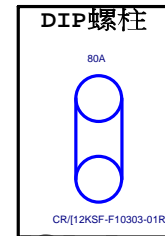
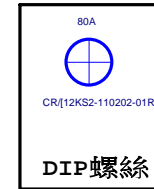
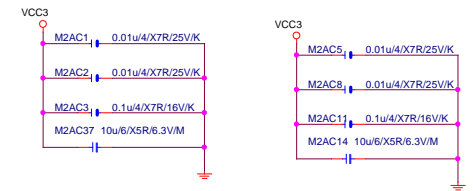
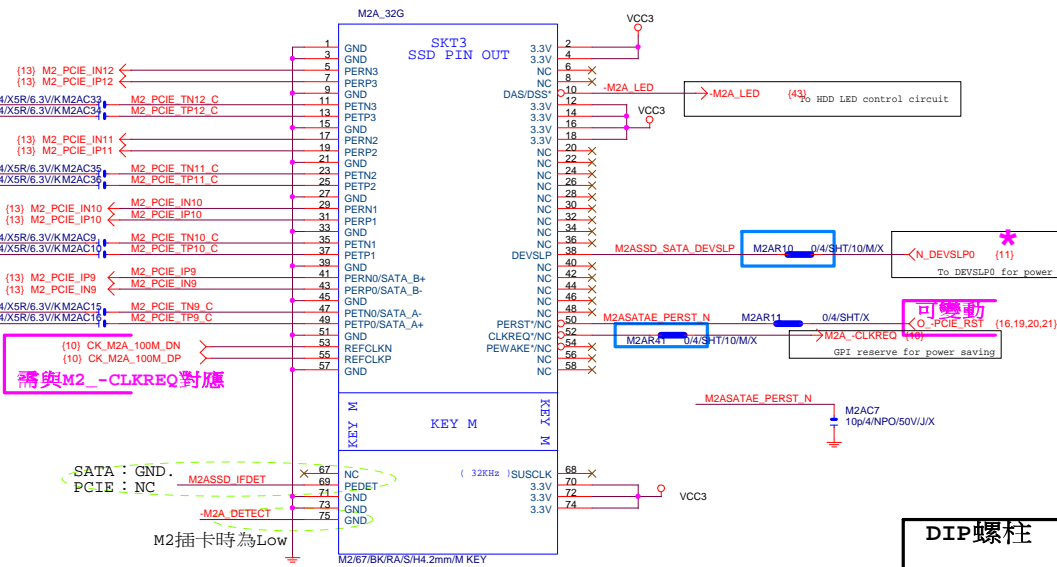
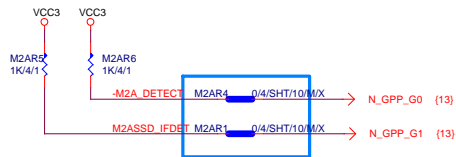
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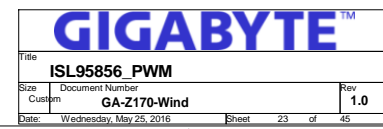
PCIEX1

Title	Document Number	Rev
Size	GA-Z170-Wind	1.0
Custom		
Date:	Wednesday, May 25, 2016	Sheet 21 of 45

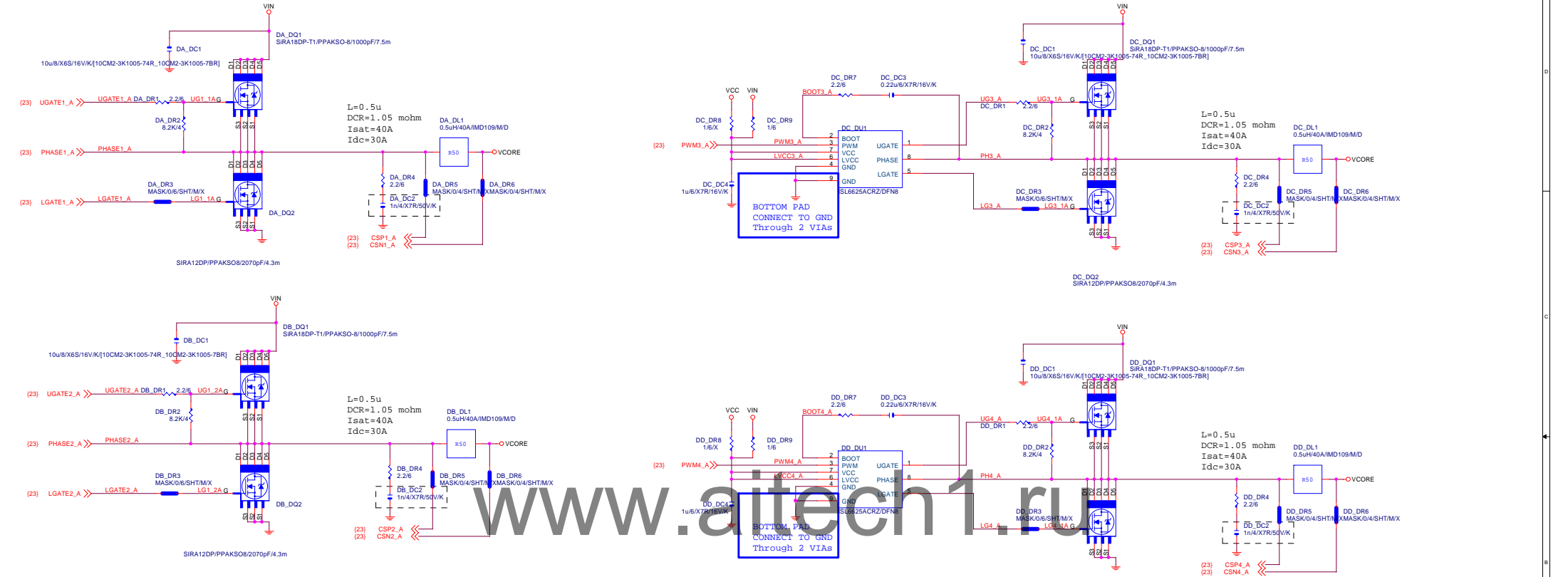
支援SATA and M.2 function



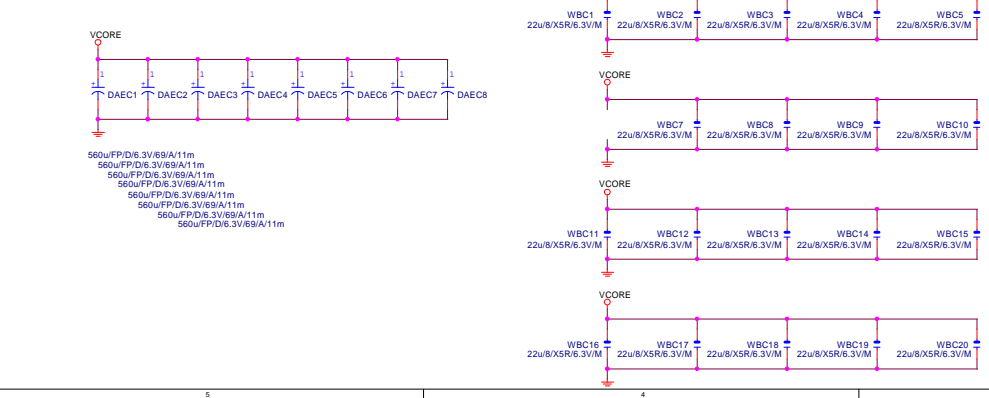
M.2 有插卡 /沒插卡 GPP_G0	M.2插何種卡？ GPP_G1	SATA Express 插何種硬碟？ GPP_E0/E2/F1	I015 (S0)	I016 (S1)	I017	I018	I019 (S0)	IP20 (S1)
有插卡 (Low)	SATA Mode (Low)	SATA (Hi)	SATA (M.2)	PCIE x1	PCIE x1	PCIE X1	PCIE x1	SATA
		SATA Express (Low)	SATA (M.2)	PCIE x1	PCIE x1	PCIE x1	SATA Express	
	PCIE Mode (Hi)	SATA (Hi)	PCIE x4 (For M.2)				SATA	SATA
		SATA Express (Low)	PCIE x4 (For M.2)				SATA Express	
沒插卡 (Hi)	Don' t Care (Hi)	SATA (Hi)	PCIE x4				SATA	SATA
		SATA Express (Low)	PCIE x4				SATA Express	



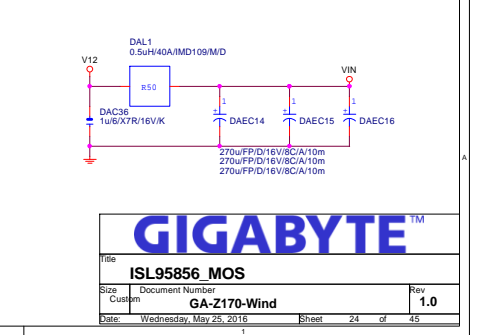
VCORE



VCORE CAP 560u*8PCS 22u*29PCS



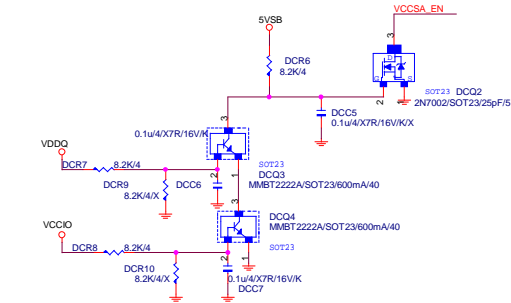
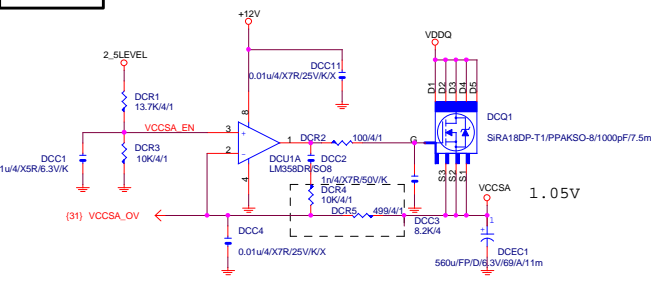
VIN CAP 270u*3PCS



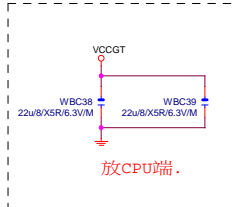
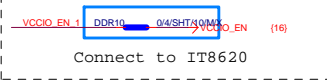
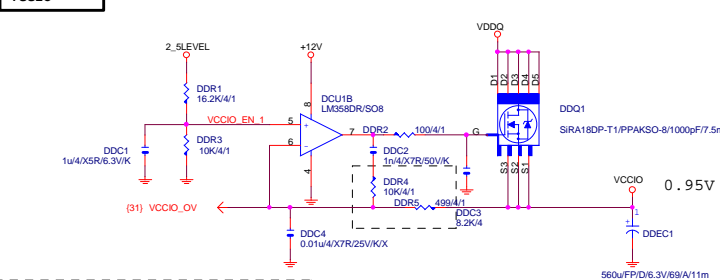
GIGABYTE™

Title			ISL95856_MOS		
Size	Document Number		Rev		
Custom	GA-Z170-Wind		1.0		
Date:	Wednesday, May 25, 2016		Sheet	24 of 45	

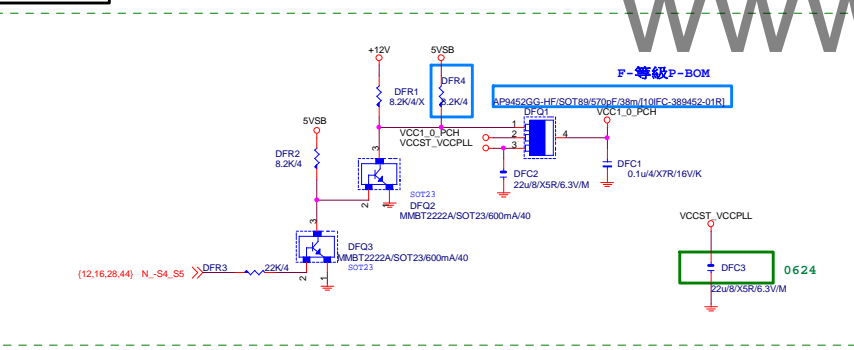
VCCSA



VCCIO

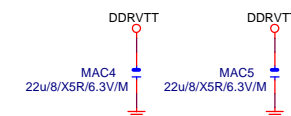
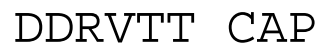


VCCST_VCCPLL



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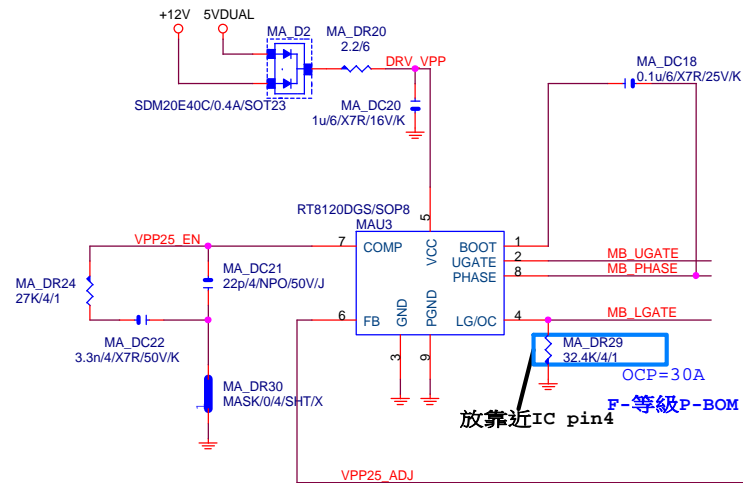
DDR4



Title			
RT8120_ DDR4 POWER			
Size	Document Number	Rev	
Custom	GA-Z170-Wind	1.0	
Date:	Wednesday, May 25, 2016	Sheet	27 of 45

REV:0.88

VPP_25V



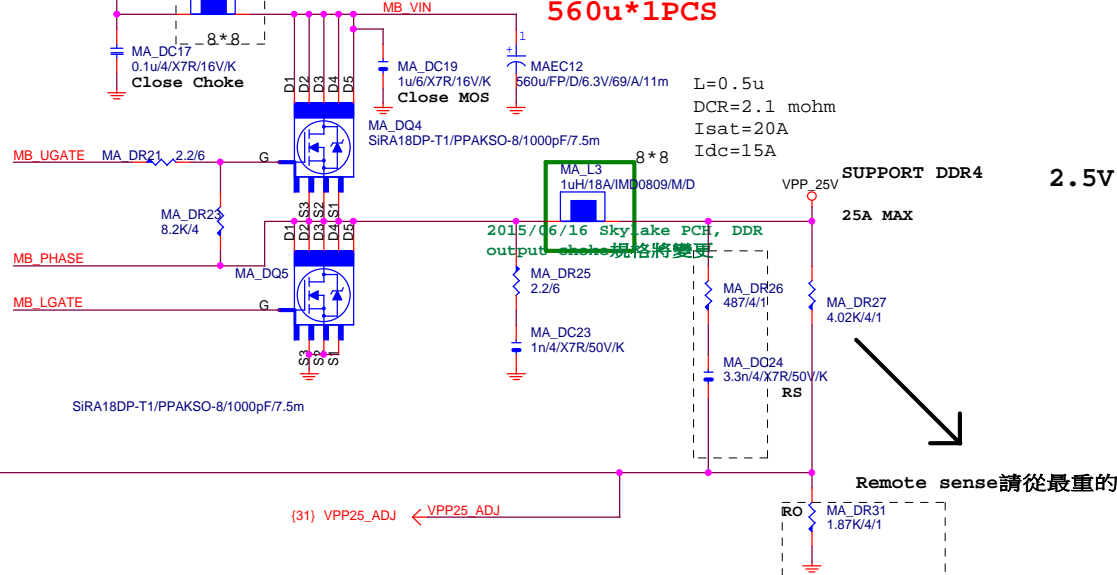
放靠近IC pin4

F-等級P-BOM

OCP=30A

L=0.5u
DCR=2.1 mohm
Isat=20A
Idc=15A

CHOKE與CAP料號可變

DDR VPP VIN CAP
560u*1PCS

SUPPORT DDR4 2.5V

25A MAX

2015/06/16 Skylake PCH, DDR

output choke規格將變更

MA_DR25 2.2/6

MA_DR26 487/4/1

MA_DR27 4.02K/4/1

MA_DR28 3.3n/4/X7R/50V/K

MA_DR29 1.87K/4/1

Remote sense請從最重的負載端點拉回

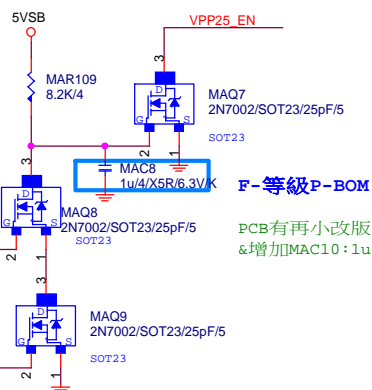
{31} VPP25_ADJ ← VPP25_ADJ

RO MA_DR31 1.87K/4/1

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PWR_SEQ

* 刪 MA_DR32

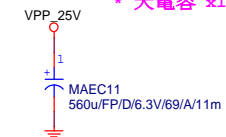


F-等級P-BOM

PCB有再小改版, MAC8改回0.1u/4/X7R/16V/K/X
&增加MAC10: 1u/4/X5R/6.3V/K



VPP CAP 560u*1PCS

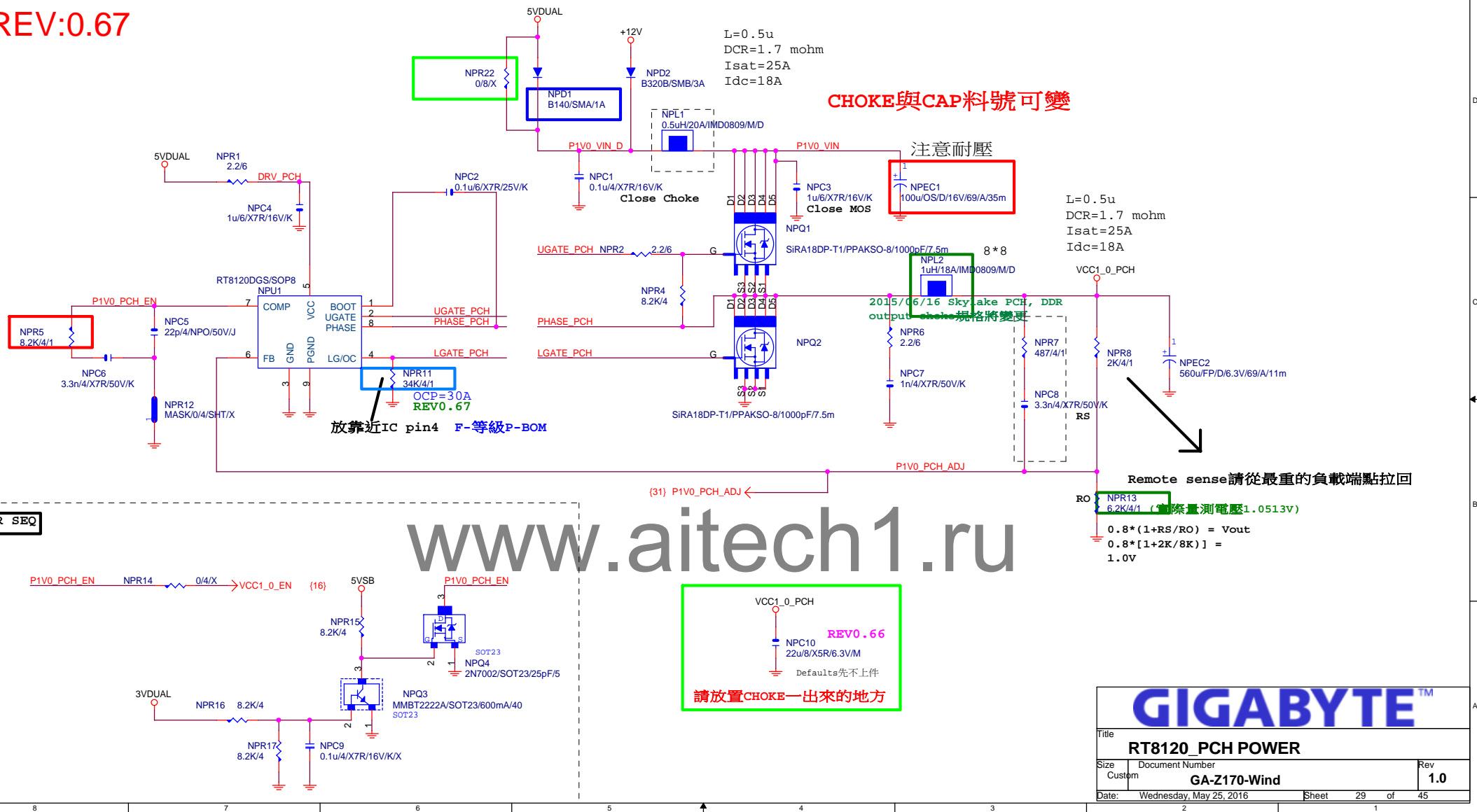


* 大電容 x1

GIGABYTE™

Title		
RT8120_VPP25 POWER		
Size	Document Number	Rev
Custom	GA-Z170-Wind	1.0
Date:	Wednesday, May 25, 2016	Sheet 28 of 45

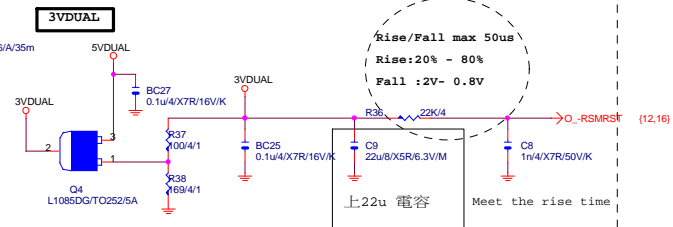
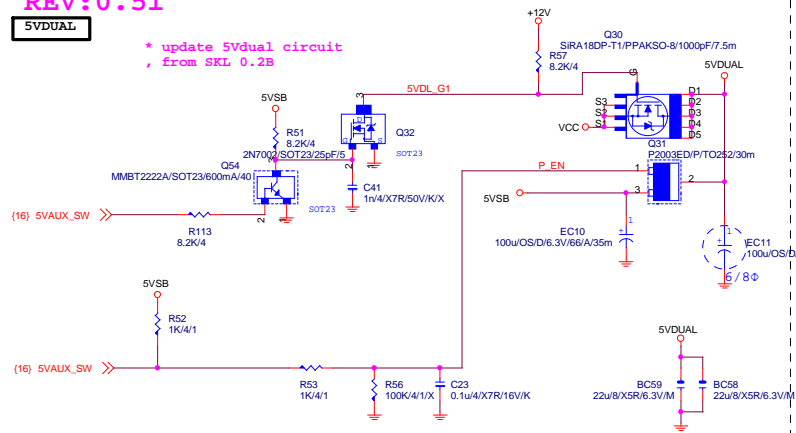
REV:0.67



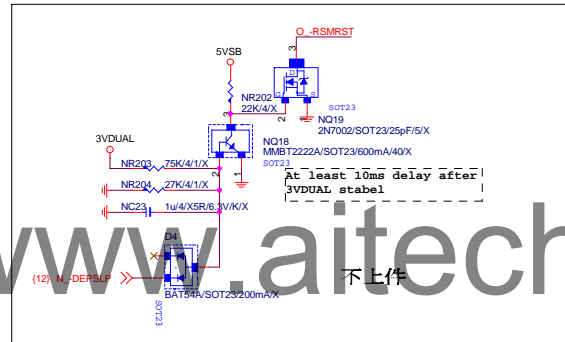
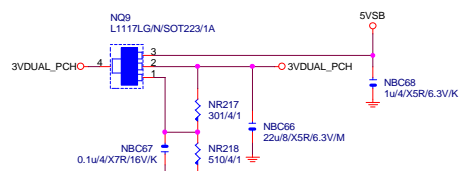
GIGABYTE™			
Title			
RT8120_PCH POWER			
Size	Document Number	Rev	
Custom	GA-Z170-Wind	1.0	
Date:	Wednesday, May 25, 2016	Sheet	29 of 45

5VDUAL

```
* update 5Vdual circuit
, from SKL 0.2B
```

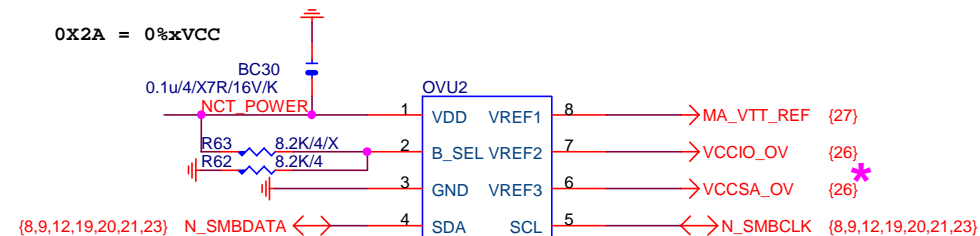
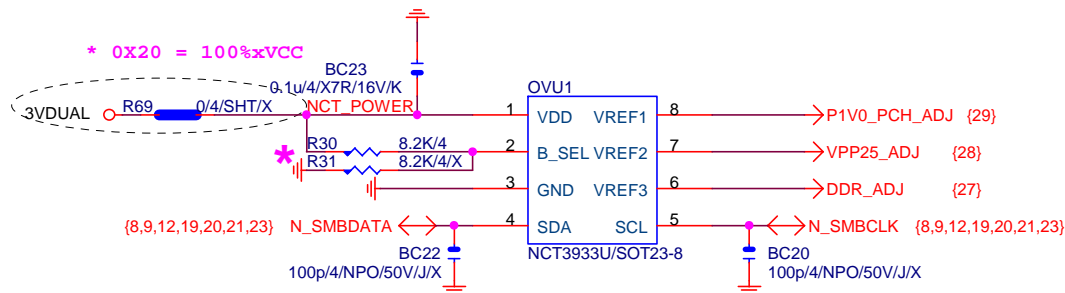


3VDUAL_PCH



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OVER VOLTAGE



0X22 = 75%xVCC

* 删除 OVU3

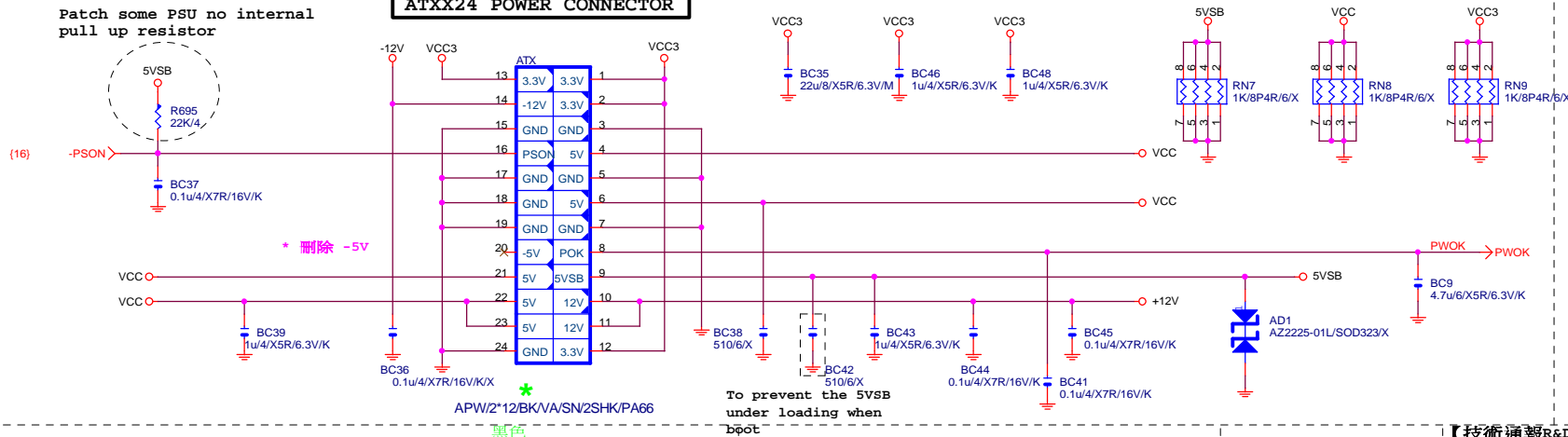
NCT3933	0X2A	0X20	0X22
VREF1	DDRVTT	VREF_DDRA_DQ	PCH Core
VREF2	VREF_DDRA_CA	N/A	VCCL_5_PCH
VREF3	VREF_DDRA_CA	VREF_DDRB_DQ	SMREF

Gigabyte Technology		
CPU CORE VR-2		
Size Custom	Document Number	Rev 1.0
Date: Wednesday, May 25, 2016	Sheet 31 of 45	

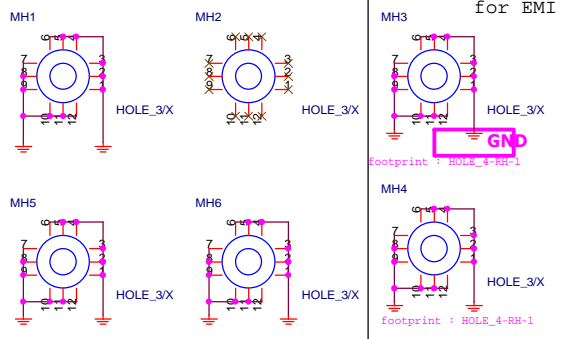
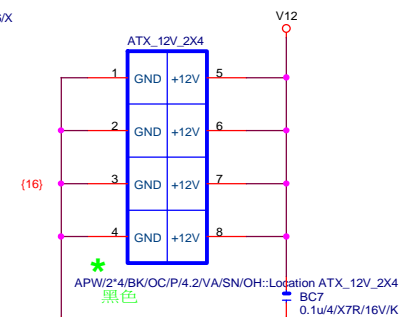
www.aitech1.ru

Patch some PSU no internal pull up resistor

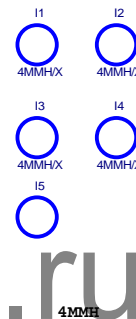
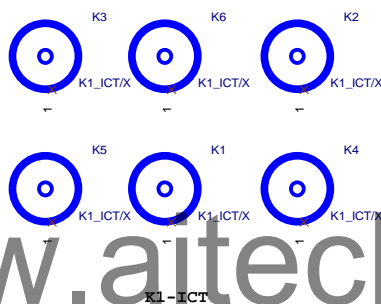
ATXX24 POWER CONNECTOR



ATXX4 POWER CONNECTOR

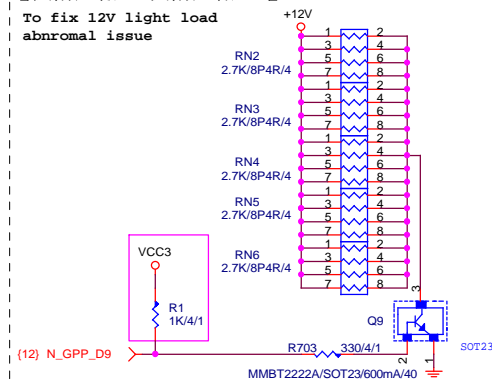


沒有TYPE-C螺絲洞改整圖, footprint :HOLE_4-RH-1



【技術通報R&D技術通報153】

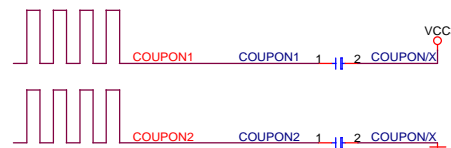
To fix 12V light load abnormal issue



-PROHOT



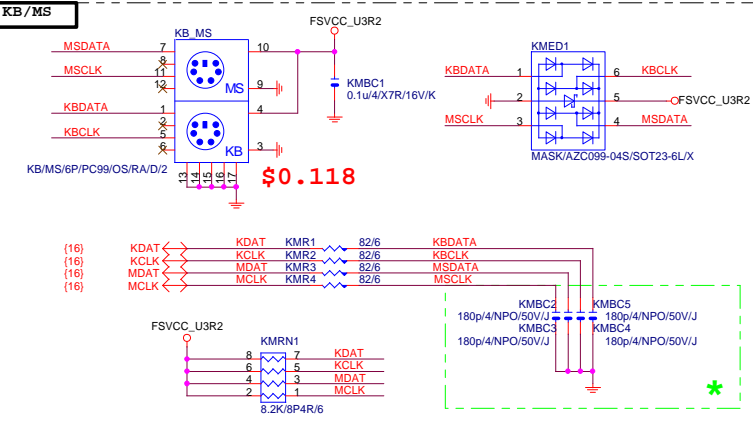
COUPON



Gigabyte Technology

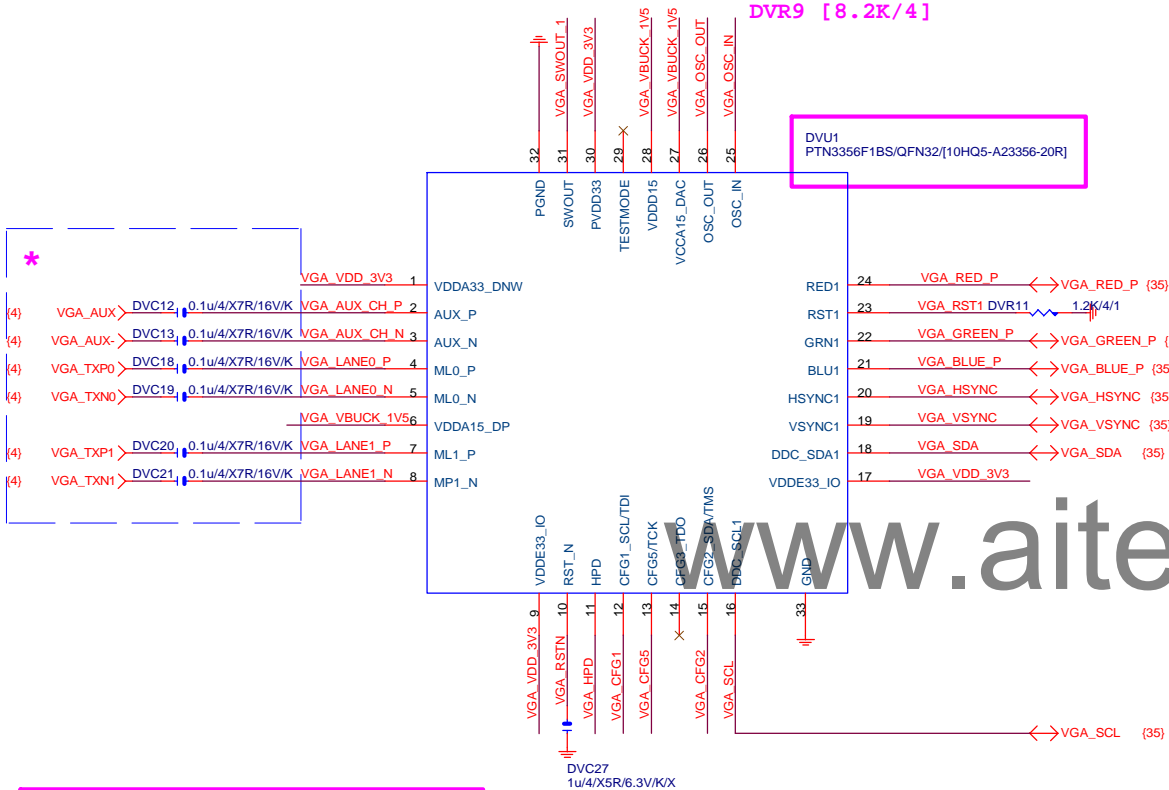
Title			
ATX POWER CONNECTOR			
Size	Document Number	Rev	
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Date:	Wednesday, May 25, 2016	Sheet	32 of 45

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1. 上件:
DVC28 [10p/4/NPO/50V/J]
DVC11 [10p/4/NPO/50V/J]~修改值
DVR10 [8.2K/4]

2. 删除:
DVX1 [25M/16p/30ppm/49US/20/D]
DVC10 [20p/4/NPO/50V/J]
DVR9 [8.2K/4]



放置PCH端



Schematic diagram of the VGA oscillator circuit. The circuit includes a crystal oscillator (DVX1, 25MHz/16p/30ppm/49US/20/D) connected to a series capacitor (DVC10, 20p/4/NPO/50V/J) and a parallel capacitor (DVC11, 20p/4/NPO/50V/J). A parallel resistor (DVR21, 1M/4/X) is connected to ground. The output is labeled VGA_OSC_OUT and the input is labeled VGA_OSC_IN. The circuit is connected to the N_VGA24MCLK {11} pin.

VCC3

DVL1
0/6/SHT/M/X

VGA_VDD_3V3

DVC14
4.7uF/X5R/6.3V/K

DVC15
0.1uF/4/X7R/16V/K

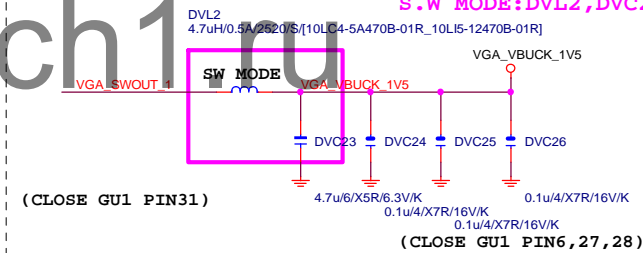
DVC16
0.1uF/4/X7R/16V/K

DVC17
0.1uF/4/X7R/16V/K

DVC22
0.1uF/4/X7R/16V/K

(CLOSE GU1 PIN1,9,17,30)

```
LDO  MODE:DVL2,DVC23-->X
S.W  MODE:DVL2,DVC23-->O
```



Non-Compliant

DVR12 8.2K

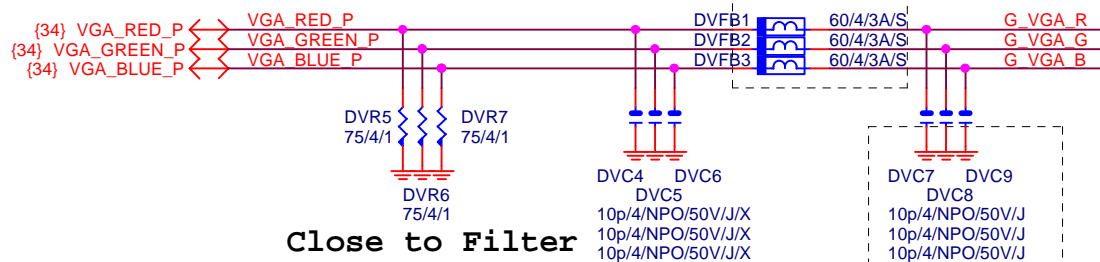
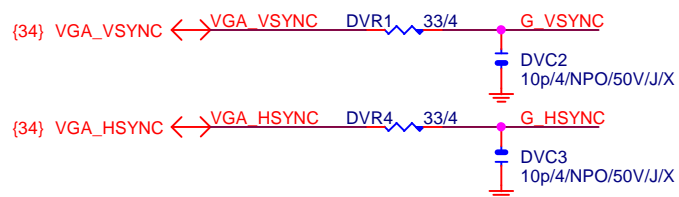
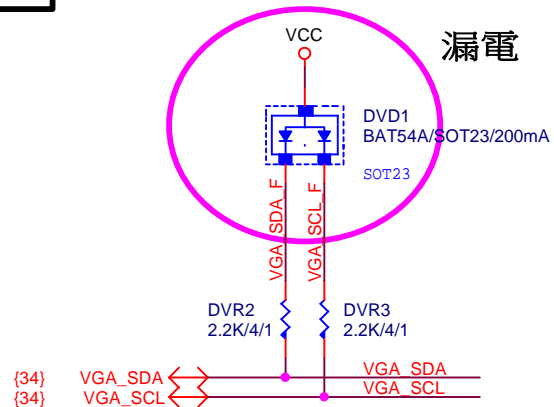
VGA_CFG1

DVR13 8.2K/4X

VGA_VDD_3V3

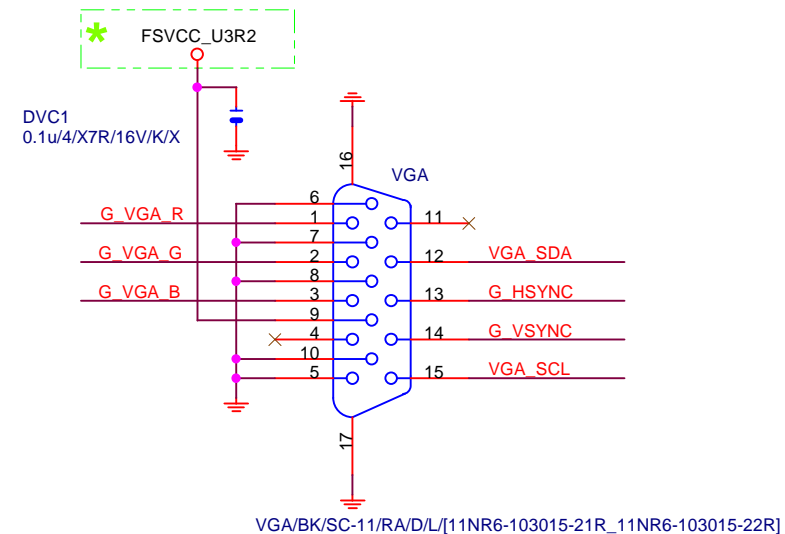
VGA_CFG2

DVR14 8.2K/4

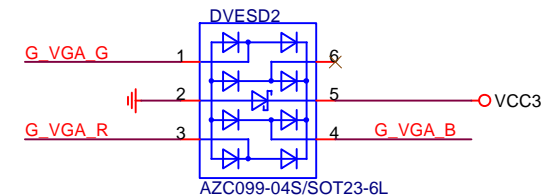
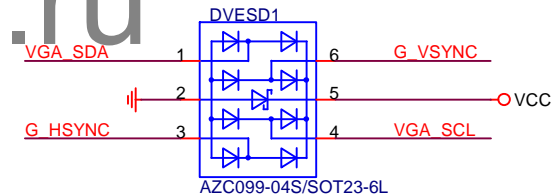


Close to Filter

FOR EMI



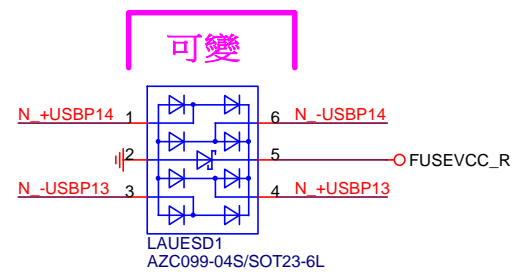
DVESD1 swap

Gigabyte Technology
NXP-PTN3356

Title		
Size	Document Number	Rev
Custom	GA-Z170-Wind	1.0
Date:	Wednesday, May 25, 2016	Sheet 35 of 45

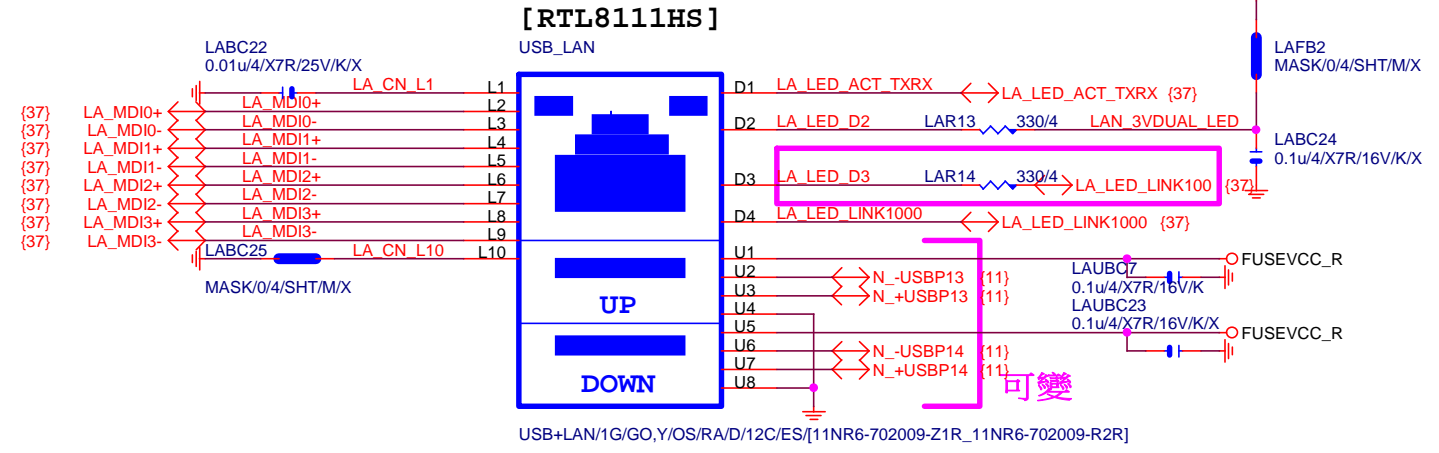
USB_LAN CONNECTOR R1.06

RMA ESD PROTECT note:可變更USB NAME



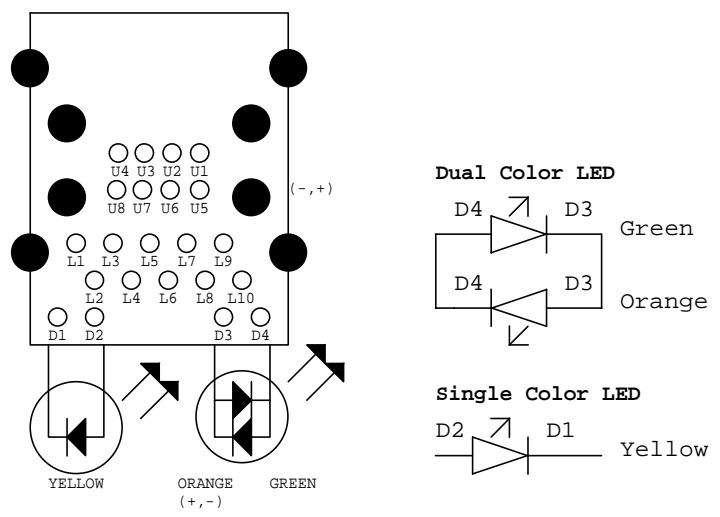
USB_LAN CONNECTOR

note:可變更USB NAME



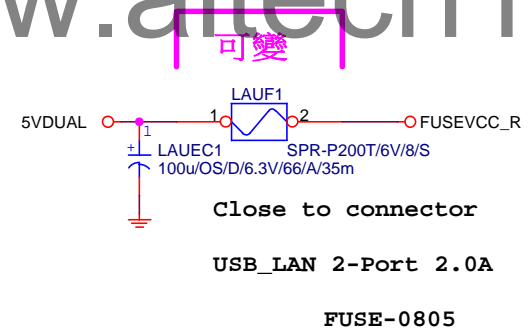
LA_MDI-->100歐姆:[20/4/8/4/20]

USB_LAN LAYOUT示意图



USB POWER

note:可變更FUSE



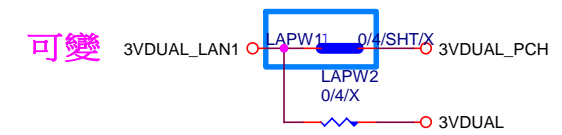
EMI SHORT PAD

PS:視EMI需求

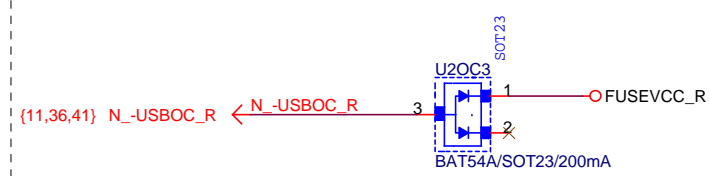


LAN POWER

note: lan power連接及電流



USBOC



Gigabyte Technology

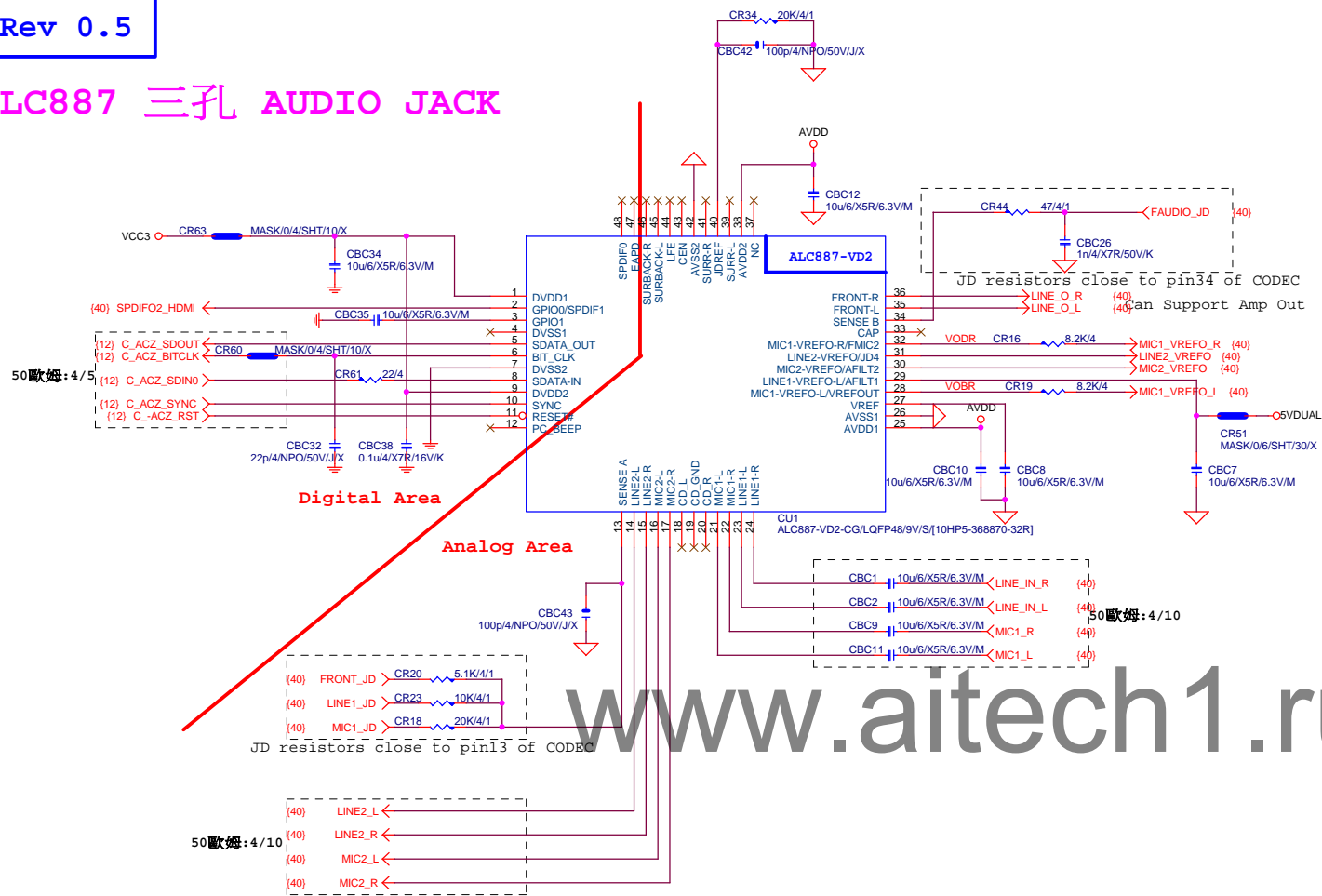
LAN CONNECTOR-RTL811HS

GA-Z170-Wind

Rev 1.0

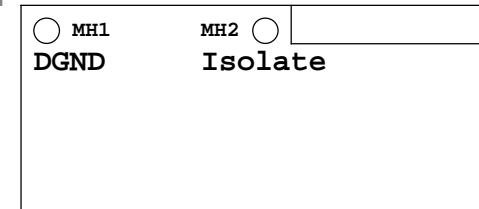
Date: Wednesday, May 25, 2016 Sheet 38 of 45

ALC887 三孔 AUDIO JACK

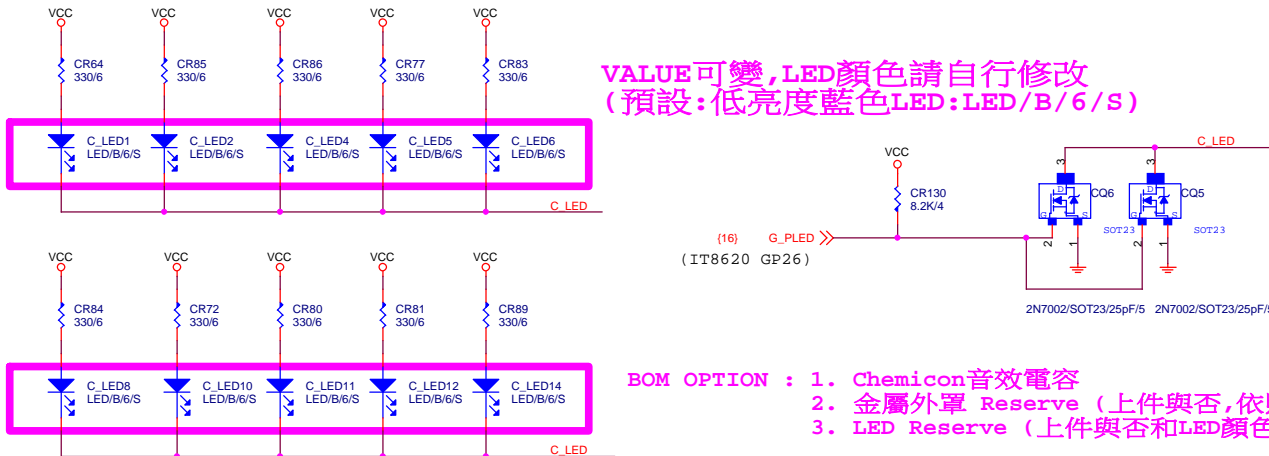


LAYOUT注意: 螺絲孔下GND方式

1. MH1空間夠, 下DGND
2. MH2一律改為Isolate



VALUE可變, LED顏色請自行修改
(預設: 低亮度藍色LED: LED/B/6/S)



- BOM OPTION :
1. Chemicon音效電容
 2. 金屬外罩 Reserve (上件與否, 依照各Model spec)
 3. LED Reserve (上件與否和LED顏色, 依照各Model spec)

*料號後補
*LAYOUT與否, 依照各Model spec

LAYOUT注意: 要加
GND切割線

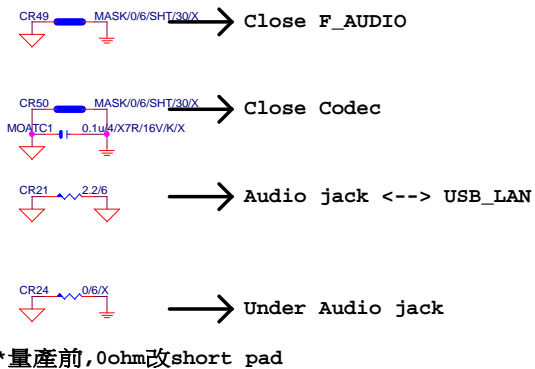
音效區域印刷



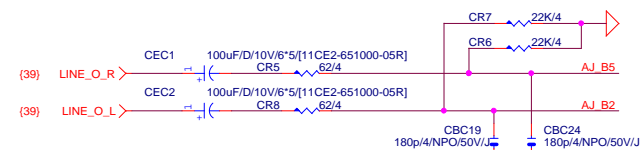
Gigabyte Technology

Title			HD AUDIO ALC887
Size	Document Number	GA-Z170-Wind	
Custom			Rev 1.0
Date:	Wednesday, May 25, 2016	Sheet	39 of 45

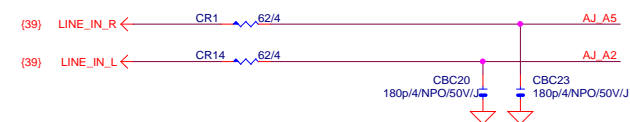
Rev 0.5



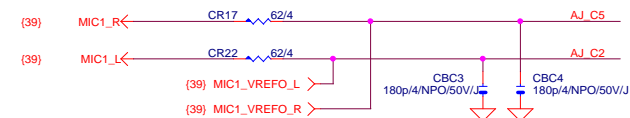
LINE-OUT



LINE-IN



MIC-IN

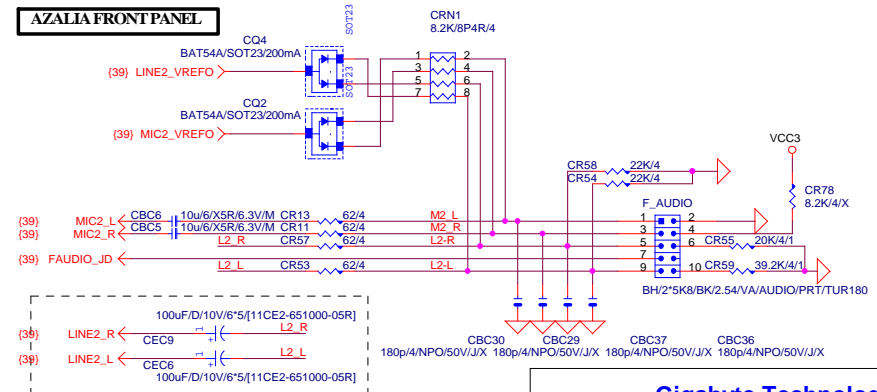


SURROUND

CEN/LFE

SURRBACK

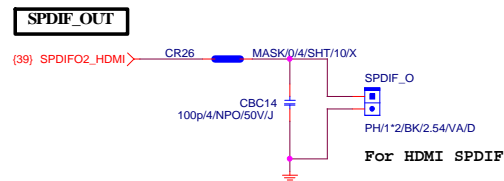
AZALIA FRONT PANEL



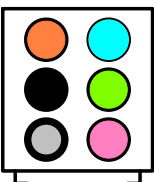
Gigabyte Technology

Title		
AUDIO JACK		
Size	Document Number	Rev
Custom	GA-Z170-Wind	1.0
Date:	Wednesday, May 25, 2016	Sheet 40 of 45

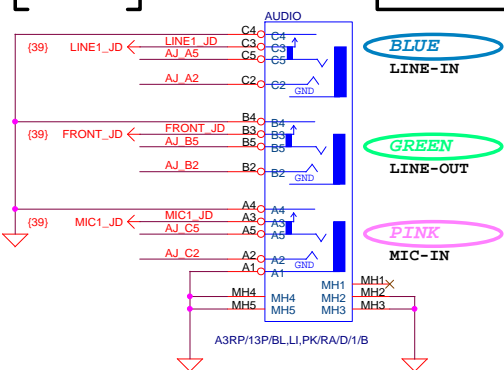
SPDIF_IN

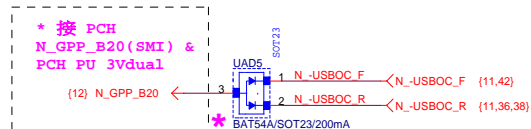


AZALIA JACK



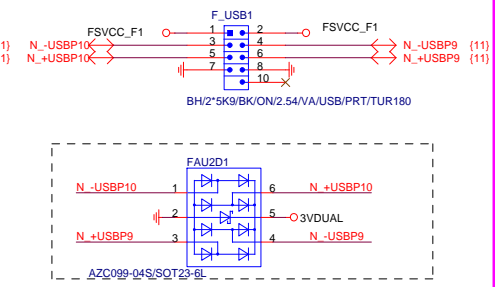
AZALIA JACK



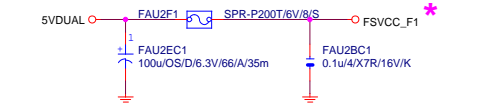


FRONT USB1

NET 可變

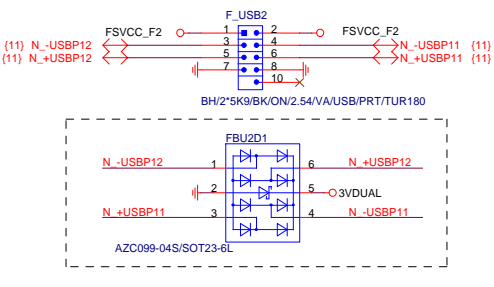


Close to connector
FUSE 2 Port 1 Fuse 2A

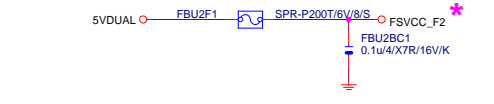


FRONT USB2

NET 可變



Close to connector
FUSE 2 Port 1 Fuse 2A



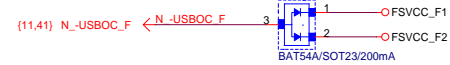
FRONT USB3

FRONT USB4

REAR USB1

REAR USB2

F_USB 2.0 OC SIGNAL



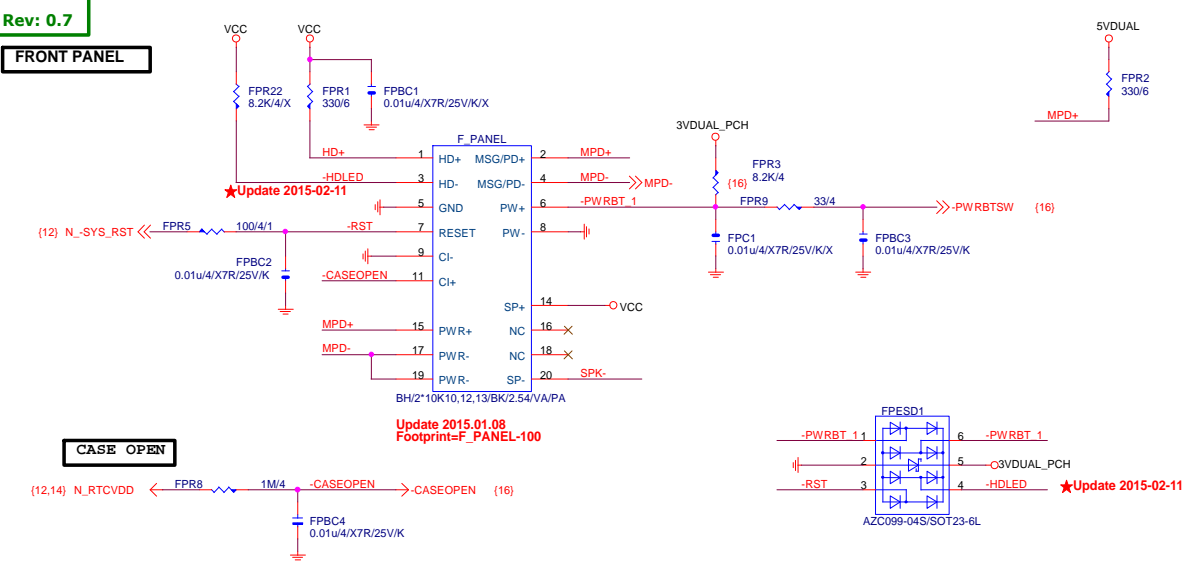
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USB2.0

Size	Document Number	GA-Z170-Wind	Rev
Custom			1.0
Date:	Wednesday, May 25, 2016	Sheet	42 of 45

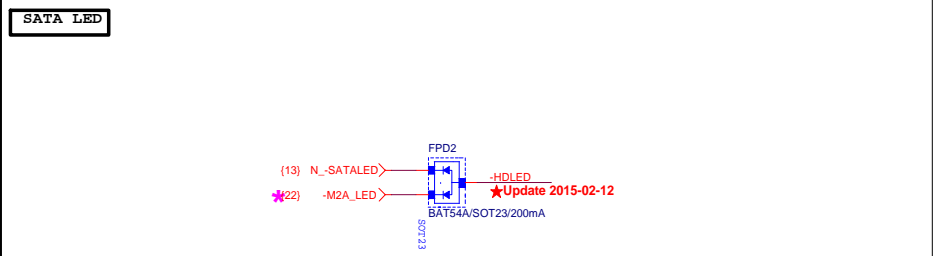
FRONT PANEL



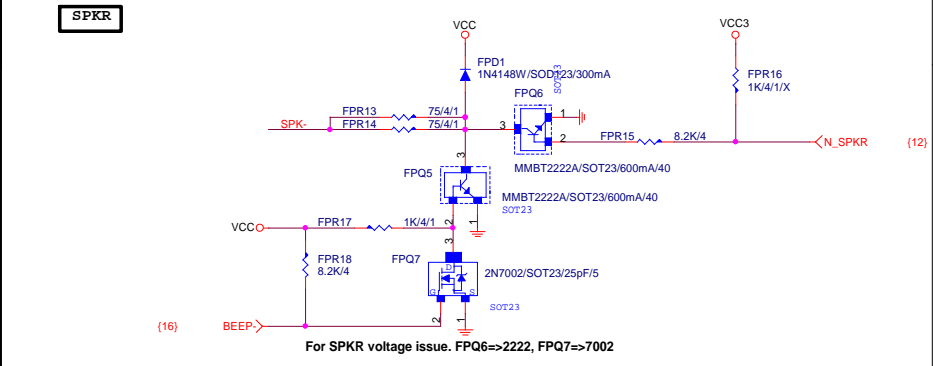
CASE OPEN

FRONT PANEL SHORT

SATA LED



SPKR



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CLOSE SIO

EMIC1
100p/4/NPO/50V/J/X

{12,16,27} N_SLP_S3 ←

EMIC2
100p/4/NPO/50V/J/X

{12,16,26,28} N_S4_S5 ←

EMIC3
100p/4/NPO/50V/J/X

{4,12,16} N_CPUPWROK ←

CLOSE PCH

EMIC4
100p/4/NPO/50V/J/X

{4,12,16} N_CPUPWROK ←

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Title

EMI/ESDSize
A

Document Number

GA-Z170-Wind

Rev

1.0

Date: Wednesday, May 25, 2016

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